DOCKET

SUPREME COURT
OF THE UNITED STATES

No. 12-786
Vide 12-800, 12-960, 12-970
Title: Limelight Networks, Inc., Petitioner
v.
Akamai Technologies, Inc., et al.
Docketed: January 2, 2013
Linked with 12A482
Lower Ct: United States Court of Appeals for the Federal Circuit
Case Nos.: (2009-1372, 2009-1380, 2009-1416, 2009-1417, 2010-1291)
Decision Date: August 31, 2012

Questions Presented

~~Date~~~	~~~~~~~Proceedings and Orders~~~~~~~~~~~~~~~~~~~~
Nov 13 2012	Application (12A482) to extend the time to file a petition for a writ of certiorari from November 29, 2012 to December 29, 2012, submitted to The Chief Justice.
Nov 15 2012	Application (12A482) granted by The Chief Justice extending the time to file until December 28, 2012.
Dec 28 2012	Petition for a writ of certiorari filed. (Response due February 1, 2013)
Jan 3 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the petitioner.
Jan 23 2013	Order extending time to file response to petition to and including March 4, 2013.
Feb 1 2013	Brief amici curiae of Altera Corporation, et al. filed. VIDED.
Feb 1 2013	Brief amici curiae of Google, Inc., et al. filed. VIDED.
Feb 1 2013	Brief amici curiae of CTIA - The Wireless Association, et al filed. VIDED.
Feb 27 2013	Order further extending time to file response to petition to and including April 3, 2013.
Apr 3 2013	Brief of respondents Akamai Technologies, Inc., et al. in opposition filed.
May 20 2013	Reply of petitioner Limelight Networks, Inc. filed.
May 21 2013	DISTRIBUTED for Conference of June 6, 2013.
Jun 10 2013	DISTRIBUTED for Conference of June 13, 2013.
Jun 17 2013	DISTRIBUTED for Conference of June 20, 2013.
Jun 24 2013	The Solicitor General is invited to file a brief in these cases (see No. 12-960) expressing the views of the United States. Justice Alito took no part in the consideration or decision of this petition.
Dec 10 2013	Brief amicus curiae of United States filed. VIDED.

Dec 23 2013	Supplemental brief of respondents Akamai Technologies, Inc., et al. filed. VIDED.
Dec 24 2013	DISTRIBUTED for Conference of January 10, 2014.
Jan 10 2014	Petition GRANTED. Justice Alito took no part in the consideration or decision of this petition.
Jan 17 2014	Justice Alito is no longer recused in this case.
Jan 31 2014	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the petitioner.
Feb 11 2014	SET FOR ARGUMENT ON Wednesday, April 30, 2014
Feb 18 2014	Record received from U.S.D.C. Massachusetts is electronic and located on PACER.
Feb 19 2014	Brief amici curiae of Ten Intellectual Property Law Professors filed.
Feb 19 2014	Brief amici curiae of Patent and Intellectual Property Law Scholars filed.
Feb 24 2014	Joint appendix filed. (Statement of costs filed)
Feb 24 2014	Brief of petitioner Limelight Networks, Inc. filed.
Feb 27 2014	Brief amici curiae of Altera Corporation, et al. filed.
Feb 28 2014	Brief amici curiae of Newegg and L.L. Bean filed.
Feb 28 2014	Brief amicus curiae of Electronic Frontier Foundation filed.
Mar 3 2014	Brief amicus curiae of Microsoft Corporation filed.
Mar 3 2014	Brief amicus curiae of the United States filed.
Mar 3 2014	Brief amici curiae of The Clearing House, et al. filed.
Mar 3 2014	Brief amici curiae of Cargill, Inc., et al. filed.
Mar 3 2014	Brief amicus curiae of International Business Machines Corp. in support of neither party filed.
Mar 3 2014	Brief amici curiae of Google, Inc., et al. filed.
Mar 3 2014	Brief amicus curiae of Intellectual Property Owners Association in support of neither party filed.
Mar 3 2014	Brief amicus curiae of CTIA - The Wireless Association filed.
Mar 3 2014	Brief amicus curiae of Conejo Valley Bar Association in support of neither party filed. (Distributed)
Mar 3 2014	Brief amicus curiae of The American Bar Association in support of neither party filed. (Distributed)
Mar 6 2014	Record received from U.S.C.A. for the Federal Circuit is electronic. (Not on PACER)
Mar 10 2014	CIRCULATED.
Mar 20 2014	Motion of the Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument filed.
Mar 26 2014	Brief of respondents Akamai Technologies, Inc., et al. filed. (Distributed)
Apr 1 2014	Brief amicus curiae of American Intellectual Property Law Association ("AIPLA") filed. (Distributed)
Apr 1 2014	Brief amici curiae of Bally Technologies, Inc., et al. filed. (Distributed)
Apr 2 2014	Brief amicus curiae of Eli Lilly and Company filed. (Distributed)
Apr 2 2014	Brief amicus curiae of Robert Mankes filed. (Distributed)
Apr 2 2014	Brief amicus curiae of Pharmaceutical Research and Manufacturers of America filed. (Distributed)

Apr 2 2014	Brief amicus curiae of Biotechnology Industry Organization filed. (Distributed)
Apr 2 2014	Brief amici curiae of Myriad Genetics, Inc., and Genomic Health, Inc. filed. (Distributed)
Apr 2 2014	Brief amicus curiae of William Mitchell College of Law Intellectual Property Institute filed. (Distributed)
Apr 18 2014	Motion of the Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument GRANTED.
Apr 22 2014	Reply of petitioner Limelight Networks, Inc. filed. (Distributed)
Apr 30 2014	Argued. For petitioner: Aaron M. Panner, Washington, D. C.; and Ginger D. Anders, Assistant to the Solicitor General, Department of Justice, Washington, D. C. (for United States, as amicus curiae.) For respondents: Seth P. Waxman, Washington, D. C.
Jun 2 2014	Judgment REVERSED and case REMANDED. Alito, J., delivered the opinion for a unanimous Court.
Jul 7 2014	Judgment issued.

PETITION FOR WRIT OF CERTIORARI

RECORD
AND
BRIEFS

No. 12-786

IN THE
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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December 28, 2012

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QUESTION PRESENTED

Akamai holds a patent claiming a method involving redirecting requests for Internet content and selecting optimal servers. The Federal Circuit acknowledged that neither Limelight nor customers using Limelight's service directly infringe Akamai's patent under 35 U.S.C. § 271(a) because no one performs all the steps of the patented method. App. 6a, 30a. The Federal Circuit nevertheless held that Limelight could be liable, under 35 U.S.C. § 271(b), for inducing infringement if (1) it knew of Akamai's patent; (2) it performed all but one of the steps of the method; (3) it induced its customers to perform the final step of the claimed method; and (4) the customers performed that step. App. 30a. The question presented is:

Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no one has committed direct infringement under § 271(a).

PARTIES TO THE PROCEEDINGS

Petitioner Limelight Networks, Inc. was the defendant and the cross-appellant below.

Respondents Akamai Technologies, Inc. and the Massachusetts Institute of Technology were the plaintiffs and the appellants below.

CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 29.6 of the Rules of this Court, petitioner Limelight Networks, Inc. states the following:

Limelight Networks, Inc. is a publicly held company that has no parent company. As of June 2012, Goldman, Sachs & Co. owned 31.45% of the shares of Limelight, and that ownership interest has not materially changed.

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Petitioner Limelight Networks, Inc. respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The *en banc* opinion of the court of appeals (App.[1] 1a-99a) is reported at 692 F.3d 1301. The initial panel opinion of the court of appeals (App. 100a-135a) is reported at 629 F.3d 1311. The memorandum and order of the district court granting judgment to petitioner as a matter of law on the issue of infringement (App. 136a-194a) is reported at 614 F. Supp. 2d 90.

JURISDICTION

The court of appeals granted a petition for rehearing *en banc* on April 20, 2011 (App. 195a-197a), and the *en banc* court of appeals entered its judgment on August 31, 2012. The court of appeals denied a motion for reconsideration in relevant part on September 27, 2012. App. 198a-199a. On November 15, 2012, Chief Justice Roberts extended the time for filing a certiorari petition to December 28, 2012. App. 207a. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Relevant provisions of the Patent Act are reproduced at App. 200a-206a.

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[1] References to "App. __a" are to the appendix bound together with this petition; references to "A__" are to the appendix filed in the Federal Circuit.

STATEMENT

1. This case involves technology for alleviating Internet congestion by delivering content from multiple alternative servers. A web page is typically made up of a base document and "embedded objects" such as graphics, text, audio, and video. The web page is identified by an address known as a uniform resource locator or URL (*e.g.*, http://www.supremecourt.gov); each embedded object typically has its own URL (*e.g.*, http://www.supremecourt.gov/oral_arguments/argument_transcripts/10-1491rearg.pdf). Specific devices on the Internet are identified using a numerical Internet Protocol ("IP") address. A domain name system server or "DNS server" translates the "hostname" portion of URLs – for example, www.supremecourt.gov – into corresponding IP addresses, a process known as "resolving." When a user enters a URL into a computer web browser, the browser extracts the hostname from the URL and sends a request to a DNS server to resolve the hostname into an IP address. Once the browser obtains the IP address, it can send a request for content to the server storing the desired web page. *See generally* App. 101a-102a.

A web page may be stored on the content provider's server, known as an "origin" or "host" server. Early in the history of the Internet, congestion problems surfaced when numerous requests for the same web page object were received by the origin server at the same time. A number of techniques were developed to address Internet congestion, including "redirection," in which a user's request is redirected to an alternative server that maintains a copy of the same content object that is on the origin server. Redirection also often utilizes a process of "load balancing,"

to ensure that requests for content are directed to servers based on such criteria as distance from the requesting location or server load. Akamai did not invent these techniques. *See Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1189-90 (Fed. Cir. 2003).

Using these techniques, service providers are able to create networks of servers that store and serve content for content providers; such networks are known as "content delivery networks" or CDNs. Akamai, after suing and then acquiring two of its competitors, has a near monopoly on CDN service, with 75% of the market. Limelight is the leading challenger. This lawsuit began, without warning, in 2006, the day after Limelight informed Akamai that it would not agree to Akamai's proposal to acquire Limelight.

2. The only patent still at issue is U.S. Patent No. 6,108,703, a "Global Hosting System" for web content (the " '703 patent"). A263-77. The first claim of the patent describes a system that allows a content provider to continue to serve a web page base document while directing requests for embedded objects contained in its web page to a CDN. In 2003, in a suit by Akamai against a different defendant, the Federal Circuit ruled that Claims 1 and 3 of the '703 patent were invalid because they were anticipated by U.S. Patent No. 6,185,598 (the " '598 patent"). *See Akamai*, 344 F.3d at 1194-95. The '598 patent, like the '703 patent, is directed to a system for increasing the accessibility of web pages on the Internet, including by redirecting requests for embedded objects. Akamai, in the 2003 case, did not contest that the '598 patent was prior art; it argued, however, that the difference between the two patents

was that the '703 patent disclosed placement of load-balancing software at the DNS server, rather than at the origin server (as in the '598 patent). *Id.* at 1193. The Federal Circuit ruled that Claims 1 and 3 of the '703 patent did not require any particular load-balancing mechanism and therefore were anticipated. *Id.* at 1194-95.

The Federal Circuit upheld the validity of two other claims because they included load-balancing software on the DNS server. The court recognized that use of load-balancing software at a DNS server was also old technology: Cisco had disclosed it as early as 1997. But the court – considering the question prior to *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) – held that the defendant had not met its burden of showing that "no reasonable jury could have found" the claims nonobvious. 344 F.3d at 1196.

3. Akamai sued Limelight for infringement of three patents, including the '703 patent, all of which share the same specification. Before trial, Akamai stipulated that it could not prove infringement of one of the patents based on the district court's claim constructions; the district court also entered summary judgment of non-infringement of a second patent. (The judgments of non-infringement of these two patents were affirmed by the panel; the *en banc* court, after initially vacating, restored those judgments.)

At trial, Akamai claimed that Limelight infringed two independent and two dependent method claims of the '703 patent. Each of the claims includes the step of "tagging at least some of the embedded objects" of a web page. The term "tagging" is not used in the specification; the court of appeals noted that "tagging" refers to the "process of modifying an

embedded object's URL to link to an object on" the CDN. App. 104a.[2]

For example, independent Claim 19 claims a "content delivery service" that includes four steps: (1) replicating embedded objects across a network of content servers on the content delivery network; (2) "tagging the embedded objects of the page so that requests for the page objects resolve to the [CDN provider's] domain instead of the content provider domain"; (3) serving the base page from the content provider domain; and (4) serving at least one embedded object from the CDN provider's domain. A276.[3]

4. Limelight's CDN service allows a content provider to request that Limelight's CDN deliver certain embedded objects rather than delivering the content itself. A573-74:71-74. In each case, the customer decides whether it wants Limelight to deliver particular objects. A570-71:61-65; A587:122. If a customer chooses to use Limelight to deliver some or all of the objects on its web page, the

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[2] The court made clear that the "only method" for tagging an embedded object described in the patent is to "prepend" the new hostname onto the embedded object URL. App. 127a. The specification gives the example of an original embedded-object URL www.provider.com/TECH/images/space.story.gif, which could be modified by prepending a new "hostname" to the URL: **ghost1467.ghosting.akamai.com/**www.provider.com/TECH/images/space.story.gif. Limelight's method does not involve such prepending. Limelight argued before the Federal Circuit that this provided an alternative ground for affirmance, but the court of appeals declined to address the issue, leaving it for the district court on remand. *See* App. 199a.

[3] Dependent Claims 20 and 21 add additional steps related to server selection. Independent Claim 34 omits the serving steps and includes steps related to selection of a content server based on the requesting party's location and network load.

customer creates URLs for those objects that include a hostname provided by Limelight or, alternatively, modifies the existing URLs for those objects by replacing the original hostname with a hostname provided by Limelight. A570:58; A587:121-23. As a result, when an Internet user requests those objects, the request is sent to Limelight rather than to the customer's content servers. A570:58-61; A587:121-22.

On an object-by-object basis, customers select which objects to ask Limelight to deliver, to ask another CDN to deliver, or to deliver themselves. A570:59-61; A586:119. The customer controls who delivers its content and can direct requests for content alternatively to Limelight and to competing CDNs, such as Akamai, on an object-by-object basis. A570-71:60-65; A442:39-40. *See also* App. 113a ("the customers decide what content, if any, they would like delivered by Limelight's CDN").

5. At trial, Akamai pursued claims of *direct* infringement – that is, infringement under 35 U.S.C. § 271(a) – only.[4] Because Limelight does not modify the URLs of the embedded objects on the content provider's website, Akamai's "theory of infringement [was] joint infringement." Akamai Panel Br. 4 (Sept. 15, 2009). Akamai argued that Limelight and its customers jointly infringed the patent because,

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[4] Akamai expressly waived any claim of indirect infringement to obtain exclusion of rulings from prior litigation involving the '703 patent, including rulings regarding invalidity of certain claims. Claims of indirect infringement accordingly were not at issue either before the panel or in Akamai's *en banc* petition.

together, they carried out all of the steps of the claimed methods.[5]

a. At the time of trial, the Federal Circuit had recently decided *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007), which also involved a theory of "joint infringement." In *BMC*, the patent claimed a method for processing debit-card transactions. *Id.* at 1375. The defendant carried out certain steps of the method; its customers and financial institutions, in using the defendant's service, carried out the remaining steps. The district court held on summary judgment that the defendant did not directly infringe, and the Federal Circuit affirmed. It noted that "[i]nfringement requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention." *Id.* at 1380. To attribute the conduct of another party to the defendant for purposes of proving direct infringement of a method claim, the court held, the patentholder would have to prove that the defendant exercised "control or direction" over the conduct of that third party. *Id.* at 1381. The court "acknowledge[d] that the standard requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement," but it held that "this concern does not outweigh concerns over expanding the rules governing direct infringement." *Id.* And it noted that concerns over "avoiding infringement . . . can usually be offset by proper claim drafting." *Id.*

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[5] Limelight disputes that *anyone* performs a "tagging" step in connection with its content delivery service. *See supra* note 2.

Based on *BMC*, Akamai sought and received an instruction that allowed the jury to impose liability for direct infringement if "the content provider, when [modifying the embedded object URLs], acts under the direction [or] control of Limelight such that Limelight can properly be deemed to be the one to do it." A818:20. The jury returned a verdict against Limelight and awarded Akamai more than $40 million in damages.

b. The district court initially denied Limelight's motions for judgment as a matter of law. The Federal Circuit then decided *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008). The patent at issue in *Muniauction* involved electronic methods for conducting bond auctions; the only theory of infringement presented by the plaintiff was "so-called joint infringement" based on actions performed by the defendant and by bidders using its system. *Id.* at 1328; *see id.* at 1321. The court noted that, "where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party." *Id.* at 1329. "[M]ere 'arms-length cooperation' will not give rise to direct infringement by any party." *Id.* In particular, the fact that the defendant "controls access to its system and instructs bidders on its use" is not sufficient to incur liability for direct infringement. *Id.* at 1330.

Relying on *Muniauction*, Limelight moved for reconsideration of the denial of its motion for judgment of non-infringement as a matter of law. Finding Akamai's theory of liability indistinguishable from the claim the Federal Circuit rejected in *Muniauction*, the

district court granted Limelight's motion. App. 138a, 193a-194a.

6. A unanimous Federal Circuit panel affirmed. The panel noted that "what is essential" in evaluating a claim of liability for "joint infringement" is "whether the relationship between the parties is such that acts of one may be attributed to the other." App. 111a. "Implicit in this court's holdings in *BMC Resources* and *Muniauction* is that the performance of a method step may be attributed to an accused infringer when the relationship between the accused infringer and another party performing a method step is that of principal and agent." *Id.* "Similarly, . . . joint infringement occurs when a party is contractually obligated to the accused infringer to perform a method step." App. 111a-112a; *see also* App. 115a. The panel concluded that Akamai failed to make the required showing. App. 116a-117a.

7. The Federal Circuit granted Akamai's petition for rehearing *en banc*, setting forth the following question to be addressed:

> If separate entities each perform separate steps of a method claim, under what circumstances would that claim be *directly infringed* and to what extent would each of the parties be liable?

App. 196a (per curiam) (emphasis added).

8. Subsequently, a different panel of the Federal Circuit, with Judge Newman dissenting, affirmed the district court's summary judgment of non-infringement in *McKesson Technologies, Inc. v. Epic Systems Corp.* The court granted McKesson's petition for rehearing *en banc*, asking the parties in that case to file briefs addressing two questions:

> 1. If separate entities each perform separate steps of a method claim, under what circumstances, if any, would either entity or any third party be liable for inducing infringement or for contributory infringement? *See Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565 (Fed.Cir.1983).
>
> 2. Does the nature of the relationship between the relevant actors – e.g., service provider/user; doctor/patient – affect the question of direct or indirect infringement liability?

463 F. App'x 906, 907 (Fed. Cir. 2011) (per curiam). The court later ordered argument in Akamai's appeal and in McKesson's appeal to be heard by the *en banc* court on the same date.

9. A fractured *en banc* court issued a single set of opinions covering both cases. Six of 11 active judges joined the per curiam majority.

a. The court noted that, "for a party to be liable for direct patent infringement under 35 U.S.C. § 271(a), that party must commit all the acts necessary to infringe the patent, either personally or vicariously. In the context of a method claim, that means the accused infringer must perform all of the steps of the claimed method, either personally or through another acting under his direction or control. Direct infringement has not been extended to cases in which multiple independent parties perform the steps of the method claim." App. 5a (citations omitted). Relying on *BMC*, the court noted that, although "direct infringement applies when the acts of infringement are committed by an agent of the accused infringer or a party acting pursuant to the accused infringer's direction or control," "[a]bsent an agency relationship between the actors or some equivalent . . . a party

that does not commit all the acts necessary to constitute infringement has not been held liable for direct infringement even if the parties have arranged to 'divide' their acts of infringing conduct for the specific purpose of avoiding infringement liability." App. 6a.

The court declined "to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a)." *Id.*

b. The court then turned to the question of inducement to infringe under 35 U.S.C. § 271(b). The court stated that, because "section 271(b) extends liability to a party who advises, encourages, or otherwise induces others to engage in infringing conduct, it is well suited to address the problem presented by the cases before us, i.e., whether liability should extend to a party who induces the commission of infringing conduct when no single 'induced' entity commits all of the infringing acts or steps but where the infringing conduct is split among more than one other entity." App. 7a.

The court acknowledged that "inducement gives rise to liability only if the inducement leads to actual infringement. That principle, that there can be no indirect infringement without direct infringement, is well settled." App. 8a (citing *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961); *Henry v. A.B. Dick Co.*, 224 U.S. 1, 12 (1912)). The court stated, however, that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer. If a party has knowingly induced others to commit the acts necessary to infringe the

plaintiff's patent and those others commit those acts, there is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement." App. 9a.

The majority rejected the dissent's objection that "the approach we adopt today has the effect of 'defin[ing] direct infringement differently for the purposes of establishing liability under § 271(a) and (b).'" App. 20a (alteration in original). The court held that "[s]ection 271(a) does not define the term 'infringement.' Instead, it simply sets forth a type of conduct that qualifies as infringing." *Id.* "Section 271(b) sets forth another type of conduct that qualifies as infringing. . . . But nothing in the text of either subsection suggests that the act of 'infringement' required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a)." *Id.*

c. The court held that, "although the jury found that the content providers acted under Limelight's direction and control, the trial court correctly held that Limelight did not direct and control the actions of the content providers as those terms have been used in this court's direct infringement cases." App. 30a. The court nevertheless held that, "under the principles of inducement laid out above, Limelight would be liable for inducing infringement if the patentee could show that (1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content pro-

viders in fact performed that final step." *Id.* The court acknowledged that "the patentee in *Akamai*" – unlike the patentee in *McKesson*, the companion case – "did not press its claim of induced infringement at trial." *Id.* The court nevertheless indicated that Akamai's express waiver did not bar it from seeking to gain "the benefit of this court's ruling" on remand. *Id.*

10. Judge Linn, joined by Judges Dyk, Prost, and O'Malley, dissented. The dissent accused the court of "assum[ing] the mantle of policy maker":

> [The court] has decided that the plain text of § 271(a) and (b) fails to accord patentees certain extended rights that a majority of this court's judges would prefer that the statute covered. To correct this situation, the majority effectively rewrites these sections, telling us that the term 'infringement' was not, as was previously thought, defined by Congress in § 271(a), but instead can mean different things in different contexts.

App. 69a (Linn, J., dissenting). The dissent noted that the "majority's approach is contrary to both the Patent Act and to the Supreme Court's longstanding precedent." *Id.* "Under the majority's approach, if two or more parties independently practice the elements of a claim, an act of 'infringement' to support a charge of induced infringement under § 271(b) has occurred. The problem with that approach is that there is no statutory basis for concluding that such independent acts constitute infringement and no basis for asserting a cause of action for infringement against any of those independent parties." App. 79a (citation omitted). "There is no tort for inducing an act that is something less than an

infringement, and thus *not* itself wrongful, tortious, or a breach of duty." App. 90a.

11. Judge Newman also dissented. She noted that the majority had made "dramatic changes in the law of infringement" and that the court's "new 'inducement-only rule' . . . is not in accordance with statute, precedent, and sound policy . . . and contains vast potential for abuse." App. 31a (Newman, J., dissenting). "[A]n inducement-only rule has never been held, in any case. It has no foundation in statute, or in two centuries of precedent." App. 33a. "For all forms of indirect infringement liability, it is necessary to establish that the claimed invention is directly infringed." App. 49a. "When the performance of the claim steps is not unlawful, the inducer cannot be liable for inducing infringement." App. 50a. Judge Newman would have held that, as long as all steps of a method claim are performed "whether by a single entity or in interaction or collaboration," all parties are liable for direct infringement; "[r]emedy is then allocated as appropriate to the particular case." App. 68a.

12. Limelight filed a motion for reconsideration and clarification that was denied in relevant part. App. 198a-199a.

REASONS FOR GRANTING THE PETITION

The Federal Circuit has created a new basis for patent-infringement liability that conflicts with this Court's precedents and the Patent Act. Section 271(a) defines conduct that *directly* infringes a patentee's exclusive rights. Sections 271(b) and (c) define statutory bases for extending liability to one who does not directly infringe but who, with specific intent to bring about infringement, either "actively induces" infringement or contributes to infringement by selling a component specially adapted solely for infringing use. These statutory definitions of *indirect* infringement displaced theories of indirect infringement applied under common law.

The Federal Circuit acknowledged that, to prove that a defendant has *directly* infringed a method patent, a patentee must show that the defendant performed every step of the claimed method. A bare majority of the court nevertheless held that a defendant may be liable for *indirect* infringement if a patentee can show that the defendant, with knowledge of the patent, intentionally caused some group of independent actors – none of whom performs all of the steps of the method and none of whom is liable for direct infringement – *collectively* to perform all the method steps.

That decision conflicts with this Court's holding that no defendant can be liable for indirect infringement in the absence of proof of direct infringement. It is irreconcilable with the text and structure of the Patent Act, which does not distinguish between direct infringement that violates § 271(a) and direct infringement that provides a predicate for claims of inducement under § 271(b). It ignores the nature of the intellectual property rights embodied in a patent,

which grants enumerated rights to exclude that do not depend on the intent of the infringer but that also do not extend beyond the boundaries established in the patent claims and the express terms of the Patent Act.

By undermining important pillars of patent doctrine, the decision disturbs settled expectations of the inventive community, creating enormous uncertainty. The decision also greatly increases the *in terrorem* effect of and litigation involving interactive method patents, which are often abstract and lack well-defined claim boundaries. Such a basic change to the patent law must come, if at all, from Congress, not from the Federal Circuit.

I. THE FEDERAL CIRCUIT'S HOLDING CONFLICTS WITH THIS COURT'S PRECEDENT, THE STATUTORY TEXT, AND BASIC LIABILITY PRINCIPLES

A. The Decision Below Is Irreconcilable with the "Fundamental Precept" That There Can Be No Indirect Infringement in the Absence of Direct Infringement Under § 271(a)

The Federal Circuit's holding that Limelight may be liable, under 35 U.S.C. § 271(b), for inducing infringement of Akamai's patent even though no party directly infringed the patent under § 271(a) conflicts with this Court's holding, repeatedly reaffirmed, that "if there is no *direct* infringement of a patent there can be no [indirect] infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) ("*Aro I*") (referring to principle as a "fundamental precept" of patent law); *see Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Deepsouth Packing Co. v. Laitram Corp.*, 406

U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 483 (1964); *see also Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176 (1980); *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 677 (1944) (Frankfurter, J., dissenting).

1. In *Aro I*, the plaintiff held a patent on convertible car tops; the defendant sold replacement fabrics knowing that "the purchasers intend[ed] to use the fabric for replacement purposes on automobile convertible tops which are covered by the claims of [the] combination patent." 365 U.S. at 341. This Court held that "manufacture and sale with that knowledge might well constitute contributory infringement under § 271(c), *if, but only if,* such a replacement by the purchaser himself would in itself constitute a *direct* infringement *under § 271(a).*" *Id.* (first and third emphases added). The Court clarified that "'if the purchaser and user could not be *amerced as an infringer* certainly one who sold to him . . . cannot be amerced for contributing to a non-existent infringement.'" *Id.* (quoting *Mercoid*, 320 U.S. at 674 (Roberts, J., dissenting)) (emphasis added; alteration in original). The Court thus made clear that a necessary predicate for liability for indirect infringement is the existence of direct infringement *under § 271(a)*: unless someone is liable for direct infringement (may be "amerced as an infringer"), no one can be liable for indirect infringement.

This Court applied the same rule in *Deepsouth*. In that case, the respondent held a patent on a shrimp deveiner; sale and use of the petitioner's deveiner infringed the respondent's combination patent. 406 U.S. at 519. The petitioner sought a modification of the injunction against it to permit it to continue to

ship "deveining equipment to foreign customers in three separate boxes, each containing only parts of the 1 3/4-ton machines, yet the whole assemblable in less than one hour." *Id.* at 524. The Fifth Circuit rejected the request; this Court reversed. It noted that if the petitioner's conduct "were intended to lead to use of patented deveiners inside the United States its production and sales activity would be subject to injunction as an induced or contributory infringement." *Id.* at 526. But, the Court held, the petitioner could not be liable for indirect infringement in the absence of direct infringement. Quoting *Aro I*, the Court noted that the Patent Act "'defines contributory infringement in terms of direct infringement.'" *Id.* (quoting 365 U.S. at 341). Under § 271(a), "it is not an infringement to make or use a patented product outside of the United States." *Id.* Because the petitioner's deveiner did not infringe the respondent's patent until fully assembled, and because that assembly was completed outside of the United States, the petitioner's conduct did not subject it to liability under the Patent Act.

The holding and analysis of *Deepsouth* are controlling here. *First*, this Court held that, because the petitioner's conduct did not result in direct infringement of the respondent's patent by anyone, the petitioner could not be held liable for indirect infringement. *Second*, this Court did not even entertain the argument that the meaning of "infringement" for purposes of assessing potential liability for *indirect* infringement might be broader than the meaning of "infringement" for purposes of assessing liability for *direct* infringement: to the contrary, the fact that § 271(a) defines infringement in terms of activity *in the United States* provided sufficient reason to reject

liability for both direct and indirect infringement based on foreign conduct that would have been infringing had the Patent Act applied. *Third*, this Court rejected the Fifth Circuit's holding that such a construction of the Patent Act was "artificial" or "technical" or "allow[ed] an intrusion on a patentee's rights." *Id.* at 525 (internal quotations omitted). To the contrary, this Court held that it "would require a clear and certain signal from Congress before approving the position of a litigant who . . . argues that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought." *Id.* at 531. The Court left the matter to Congress (which eventually amended the Patent Act to address the issue, *see infra* pp. 23-24).

This Court reaffirmed the basic principle – that liability for indirect infringement requires proof that some party has directly infringed – just two Terms ago in *Global-Tech*. It noted that § 271(b) has two "possible" readings, which differ with respect to the inducer's state of mind; both such readings, however, *require* that the inducer "lead another to engage in conduct that . . . amount[s] to infringement, *i.e.*, the making, using, offering to sell, selling, or importing of a patented invention. See § 271(a)." 131 S. Ct. at 2065. The Court's analysis started from the premise that a showing that some party has directly infringed within the meaning of § 271(a) is the necessary first step in showing that some other party induced infringement within the meaning of § 271(b).

2. As the five dissenting judges below recognized, "[t]he majority's approach" – which permits imposition of liability under § 271(b) even though no party has directly infringed under § 271(a) – "is contrary . . . to the Supreme Court's longstanding precedent."

App. 69a (Linn, J., dissenting); *see also* App. 49a (Newman, J., dissenting) ("For all forms of indirect infringement liability, it is necessary to establish that the claimed invention is directly infringed."). The Federal Circuit expressly held that Akamai failed to prove that Limelight or its customers directly infringed. *See* App. 30a. That determination should have ended the case: because Limelight did not "lead another to engage in conduct that ... amount[s] to infringement" under § 271(a), *Global-Tech*, 131 S. Ct. at 2065, the prerequisite for liability under § 271(b) is absent.

The Federal Circuit majority attempted to distinguish this Court's precedents by maintaining that there is a distinction between infringement as defined in § 271(a) and infringement as used in § 271(b): while the *en banc* majority acknowledged that direct infringement under § 271(a) requires that a party "commit all the acts necessary to infringe the patent," App. 5a, "[n]othing in the text indicates that the term 'infringement' in section 271(b)" is so limited, App. 10a. "Rather, 'infringement' in this context appears to refer most naturally to the acts necessary to infringe a patent, not to whether those acts are performed by one entity or several." *Id.*; *see also* App. 24a (suggesting that performance of all method steps by independent entities constitutes "actual infringing conduct" but not infringement under § 271(a)). That analysis conflicts with the plain terms of the statute, as explained below; it also conflicts with this Court's prior statements and analysis. Most recently, in *Global-Tech*, the Court expressly noted that "infringement" as used in § 271(b) means "the making, using, offering to sell, selling, or importing of a patented invention" – that is, the same conduct that is defined

as infringement in § 271(a). *See* 131 S. Ct. at 2065. In *Deepsouth*, the Court found that the petitioner did not induce infringement because the induced conduct took place overseas and "[t]he statute makes it clear that it is not an infringement to make or use a patented product outside of the United States." 406 U.S. at 527. That limitation appears in § 271(a), not in § 271(b). And, in *Aro I*, the Court directly stated that a party may be liable for indirect infringement "*if, but only if*," it led to "*direct* infringement *under § 271(a)*." 365 U.S. at 341 (first and third emphases added).

Without discussing *Global-Tech* or *Deepsouth*, the Federal Circuit dismissed this Court's statement in *Aro I* as dicta, stating that "it was because the purchaser of the fabric was engaged in repair rather than reconstruction – and thus was not guilty of infringement at all – that the Court found there could be no contributory infringement." App. 24a. But the same is true here: the Federal Circuit acknowledged that neither Limelight nor its customers were "guilty of infringement at all" because neither performed all the steps of the claimed method. The Federal Circuit majority's creation – extra-statutory, non-§ 271(a) "infringement" – cannot be reconciled with this Court's precedents.

B. The Federal Circuit's Decision Cannot Be Squared with the Text of the Patent Act

Even if this Court had not already spoken directly to the question, the Federal Circuit's holding could not be squared with the text of the Patent Act.

1. Section 271, entitled "Infringement of patent," begins with § 271(a), which "defines infringement." App. 72a (Linn, J., dissenting); *see Aro I*, 365 U.S. at 341 ("§ 271(a) of the new Patent Code . . . defines

'infringement'"). That is, § 271(a) provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore, *infringes the patent*." 35 U.S.C. § 271(a) (emphasis added). No other provision in the Patent Act uses the italicized phrase.

Section 271(b) provides that "[w]hoever actively induces *infringement of a patent* shall be liable as an infringer." *Id.* § 271(b) (emphasis added). By its terms, that provision does not purport to define "infringement of a patent" but instead imposes liability on one who "actively induces" such infringing conduct. *See* App. 7a (acknowledging that § 271(b) applies where the defendant actively "induces others to engage in infringing conduct"). Inducement of conduct that does not "infringe the patent" cannot be a basis for liability under § 271(b). *See* App. 73a-74a (Linn, J., dissenting) ("A person who does not practice the entire invention is not liable under subsection (a); a person who actively induces such partial practice is not liable under subsection (b)."). The *en banc* majority's statement that "nothing in the text . . . suggests that the act of 'infringement' required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a))," App. 20a, ignores the most straightforward reading of the statutory text.

Furthermore, as the dissent noted (App. 79a (Linn, J., dissenting)), the majority's recognition of "actual infringing conduct" for which no party can be held liable "runs directly afoul" of § 281. That provision states that "[a] patentee *shall* have remedy by civil action for infringement of his patent." 35 U.S.C.

§ 281 (emphasis added). If the performance of all steps of a method by various independent parties constituted "infringement," § 281 dictates that the patentee has a remedy. Conversely, once the Federal Circuit acknowledged that the performance of less than all the steps of a method patent is not actionable, even if other parties perform the remaining steps, it should have rejected any claim for indirect infringement as well.

The majority also noted that the Patent Act defines acts of "infringement" that do not give rise to liability under § 271(a). *See* App. 20a-21a (citing §§ 271(e)(2), 271(f)). But, as the dissent noted, "these newer additions do not support the majority; indeed they contradict it." App. 81a (Linn, J., dissenting). "The fact that § 271(e), (f), and (g) identify acts not falling under § 271(a) that are to be treated as infringement confirms that, when Congress intended to cover acts not encompassed within the traditional definition of infringement, it knew how to create an alternative definition thereof." *Id.*

The language and circumstances surrounding the adoption of § 271(f) make the Federal Circuit's extra-statutory improvisation especially jarring. That provision was adopted to respond to this Court's holding in *Deepsouth*, which was perceived as a "loophole." *See* App. 82a. Congress established liability for "actively induc[ing] the combination . . . outside of the United States" of "all or a substantial portion of the components of a patented invention . . . in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). This provision imposes liability for inducement without requiring proof of direct infringement under § 271(a), but only under circumstances defined

by Congress – that is, where the induced conduct would have directly infringed if United States law had applied. *See also id.* § 271(f)(2) (creating comparable analog to contributory infringement).

There is no such statutory basis for the Federal Circuit's imposition of inducement liability in this case: the Federal Circuit should have treated Akamai's potential claim for indirect infringement as this Court treated the respondent's claim in *Deepsouth*. Congress, of course, has the power to expand the scope of patent rights by imposing liability for inducing another to perform less than all the steps of a method patent. But such an expansion of the rights granted under a patent is beyond the courts' proper role – as this Court made clear in *Deepsouth*. *See* 406 U.S. at 531.

2. The Federal Circuit majority reached a contrary result based on testimony in a 1948 congressional hearing proposing that a defendant might be liable for contributory infringement even if no one directly infringed; two pre-1952 court of appeals cases cited for the same proposition; and a prior Federal Circuit decision also purportedly suggesting that possibility. None of these materials supports the result.

First, this Court has repeatedly admonished that isolated statements in legislative hearings and committee reports cannot be used to alter the meaning of a statute revealed through its language and structure. *See, e.g., Circuit City Stores, Inc. v. Adams*, 532 U.S. 105, 119-20 (2001); App. 78a (Linn, J., dissenting). That is particularly true here, where the only statement relied on was by a witness in a hearing held two congressional terms prior to the adoption of the 1952 Patent Act, and where the same witness – Giles, later Judge, Rich – later testified that a claim

of contributory infringement *would* require the existence of a direct infringer. When asked, during a later hearing, whether statutory recognition of contributory infringement would "broaden[] the law of patents," he replied, "[d]efinitely not. As I have told you, *you can always go after the direct infringer*, if you are not misusing." *Contributory Infringement: Hearings on H.R. 3866 Before Subcomm. No. 4 of the H. Comm. on the Judiciary*, 81st Cong. 19 (1949); *see also Aro*, 365 U.S. at 347 n.1 (Black, J., concurring) ("'I should state at the outset that wherever there is a contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed.'") (quoting *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the H. Comm. on the Judiciary*, 82d Cong. 151 (1951) (testimony of G. Rich)). The result in this case, by contrast, is to broaden method patents to impose liability for indirect infringement even though no party is a direct infringer.

Second, neither *Peerless Equipment Co. v. W.H. Miner, Inc.*, 93 F.2d 98 (7th Cir. 1937), nor *Solva Waterproof Glue Co. v. Perkins Glue Co.*, 251 F. 64 (7th Cir. 1918), provides a basis for disregarding the language of the statute and this Court's precedents. As the dissent below noted, by "expressly defining" the elements of indirect-infringement claims under § 271(b) and (c), Congress "clear[ed] away the morass of multi-actor infringement theories that were the unpredictable creature of common law." App. 69a-70a (Linn, J., dissenting). Moreover, in both *Peerless* and *Solva*, statements with respect to contributory infringement of method claims were inessential to the finding of liability; in each case, the defendant was also found liable for contributing to the infringement of a product claim – that is, there was action-

able direct infringement (*i.e.*, making or using the patented invention) to which the defendant contributed. *See Peerless*, 93 F.2d at 105 (finding that "the accused structure" infringed product claim); *Solva*, 251 F. at 73-74 (finding contributory infringement of "product" claim). There is no basis for claiming that Congress was aware of, much less can be understood to have codified, an inessential holding from these cases when it adopted, for the first time, statutory provisions expressly governing indirect infringement. *Cf. General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654 (1983) (rejecting argument that statutory provision incorporated "common law standard that developed in the absence of any specific provision" governing the matter).

Third, the Federal Circuit's *Fromson* decision – which in any event cannot override contrary precedent from this Court – provides no support for the result below. In that case, the court held that the defendant could *not* be liable for direct infringement of a patent related to preparation of a photographic plate, because the customers, not the manufacturer, performed the last step of the process. The Federal Circuit also noted (in dicta) that the defendant manufacturer could be liable for contributory infringement. But that observation made sense because the plaintiff's patent included a product claim in addition to the method claim, and the court's recitation of the facts suggests that, if the ultimate product was infringing, the unfinished plates sold by the manufacturer were specially made for use in an infringement of the patent and had no substantial non-infringing use. *See* 720 F.2d at 1567-68; *cf.* 35 U.S.C. § 271(c). The court did not suggest, much less state, that the defendant could be liable for contributory infringement if no one directly infringed.

C. The Majority's Analogies to Criminal Law and General Tort Law Do Not Support Its Result

The Federal Circuit majority's analogies to federal criminal law and generalized tort-law liability principles fail for reasons largely explained by the dissent.

1. The majority attempted to draw an analogy between § 271(b) and 18 U.S.C. § 2(b), which imposes criminal liability on a defendant who causes "an act to be done which if directly performed by him or another would be an offense against the United States." *See* App. 14a-17a. That analogy "is facially incorrect": the "operative language" of 18 U.S.C. § 2(b) – "*would be* an offense" – has no counterpart in 35 U.S.C. § 271(b). App. 84a, 86a (Linn, J., dissenting). Rather, the "appropriate analogy . . . is between 35 U.S.C. § 271(b) and 18 U.S.C. § 2(a)," which establishes criminal liability for one who induces the commission of an offense against the United States. App. 84a (Linn, J., dissenting). "Like 18 U.S.C. § 2(a), which requires an actual 'offense,' 35 U.S.C. § 271(b) requires an actual 'infringement.'" App. 85a (Linn, J., dissenting). And "[w]hen a defendant is charged with aiding and abetting under § 2(a) . . . *the guilt of the principal must be proven.*" *Id.* By analogy, to establish inducement liability under § 271(b), a plaintiff must establish that the induced party is liable for direct infringement under § 271(a) – which Akamai failed to do.

Furthermore, even if the analogy to 18 U.S.C. § 2(b) were valid, it would not justify the majority's result. That is because "to be liable under § 2(b) the actor must . . . cause '*prohibited conduct.*'" App. 86a (Linn, J., dissenting). "Practicing less than all elements of a claim is *not* patent infringement under

§ 271(a)." App. 87a (Linn, J., dissenting). "When a person induces one or more entities to perform acts that do not constitute the statutorily defined act of *patent infringement* . . . that person does not induce any prohibited conduct." *Id.*

2. There is likewise no basis for creating a new "quasi-inducement" theory of liability under tort-law principles. At the outset, § 271(b) defines the basis for imposition of inducement liability – that is, active inducement of infringement of a patent. The statutory language and this Court's decisions make clear that, in the absence of direct infringement, there is no basis for imposition of liability under this provision; congressional codification of indirect infringement liability precludes the Federal Circuit from drawing on common-law analogies that would expand liability beyond the scope of the statute. *See Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 173 (1994); *see also Janus Capital Group, Inc. v. First Derivative Traders*, 131 S. Ct. 2296, 2304 (2011).

In any event, the majority's tort-law analogies are inapt. The majority noted that the Restatement recognizes the principle that "a person [may be] liable for tortious conduct if he 'orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own.'" App. 16a (quoting Restatement (Second) of Torts § 877(a) (1979)); *see also* App. 17a (citing Restatement of Torts § 876 (1938)). But § 876 and § 877 of the Restatement encapsulate holdings from cases involving liability for "the tortious conduct of another" that causes "harm." Under these general principles, any indirect liability depends on showing the invasion of the legally protected rights of the

injured party. Yet that is what Akamai failed to show: as the majority acknowledged, "[a]bsent an agency relationship between the actors or some equivalent, . . . a party that does not commit all the acts necessary to constitute infringement [is not] liable for direct infringement." App. 6a; *see also* App. 30a. Because Akamai failed to show that any party directly infringed its patent, it failed to show any legally cognizable harm – *i.e.*, any invasion of a legally protected right to exclude – that would provide the basis for imposition of liability. *See* App. 76a (Linn, J., dissenting).

II. THE FEDERAL CIRCUIT'S JUDGMENT CREATES UNACCEPTABLE DOCTRINAL UNCERTAINTY, INVITING COSTLY LITIGATION OVER INTERACTIVE METHOD PATENTS

There should be no dispute that the Federal Circuit's decision addresses an issue of substantial importance: in seeking review of the panel decision, Akamai represented that the issue presented was a "precedent-setting question of exceptional importance," Akamai Pet. 1 (Feb. 18, 2011), and dozens of *amici* filed briefs after *en banc* review was granted. The Federal Circuit's unprecedented decision intensifies the importance of the question presented: the result below, and the Federal Circuit majority's refusal to adhere to the statute and this Court's decisions, undermines basic principles of patent law on which the inventive community has long relied and invites costly litigation.

A. The Federal Circuit's decision undermines at least two pillars of patent doctrine, with unpredictable consequences.

First, the "all elements" rule – the repeatedly reaffirmed principle that a defendant infringes only if he practices each and every element of a claimed invention, *see Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) – is compromised by the majority's approach. The *en banc* majority, along with four judges in dissent, recognized that neither Limelight nor its customers perform each element of Akamai's claimed invention, nor is there any basis for attributing the acts of Limelight to its customers or vice versa. For that reason, as 10 of 11 Federal Circuit judges acknowledged, *no* party directly infringed the patent. Yet the *en banc* majority created a rule that potentially imposes liability nevertheless – based on the judgment that the "impact on the patentee" is "precisely the same." App. 9a-10a. If such reasoning is permissible, no company is safe. By divorcing the basis for liability from the scope of what the patent claims, the Federal Circuit unsettles the fundamental terms of the patent bargain: a patentee obtains statutory rights to exclude, but only for conduct that falls within the scope of the patent's claims.

Second, the decision ignores and undermines the strict-liability nature of direct infringement. Before the *en banc* court ruled, it was settled that a patent confers a right to exclude defined by the patent's claims; the scope of what the patent covers – that is, what constitutes actionable direct infringement – does not depend on the intent of the infringer. *See Global-Tech*, 131 S. Ct. at 2065 n.2 ("Direct infringement has long been understood to require no more than the unauthorized use of the patented invention. Thus, a direct infringer's knowledge or intent is irrelevant.") (citations omitted). Under the *en banc*

majority's decision, that fundamental principle is abandoned: the owner of a method patent has no right to prevent independent parties, collectively, from performing all the steps of a method *unless* one party knows of the patent and intends to induce performance of all the steps. App. 29a-30a. But collective performance of the steps of a method by independent individuals does not infringe a method claim, and there is nothing "wrong" with such conduct – it falls outside the patentee's right to exclude.

B. The Federal Circuit's decision was apparently motivated by concern that "interactive" method patents – those that are most likely to be performed by multiple parties acting independently – would often be difficult to enforce and consequently of little value if the statute were applied as written. Addressing such concerns is the province of Congress, not the courts. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012). Moreover, not only was that concern misplaced, but the Federal Circuit's decision also creates the mirror-image problem by increasing the innovation-obstructing and competition-deadening effects of interactive method patents.[6]

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[6] That the Federal Circuit's ruling will encourage and prolong litigation seems certain: in the few months since the Federal Circuit's decision, its ruling has brought at least two cases back to life in addition to the two cases revived in the decision below. *See Travel Sentry, Inc. v. Tropp*, Nos. 2011-1023 & 2011-1367, 2012 WL 5382736 (Fed. Cir. Nov. 5, 2012) (vacating grant of summary judgment); *Civix-DDI, LLC v. Hotels.com, LP*, No. 05 C 6869, 2012 WL 5383268 (N.D. Ill. Nov. 1, 2012) (reconsidering grant of summary judgment); *see also Prism Techs., LLC v. McAfee, Inc.*, No. 8:10CV220, 2012 WL 5385210 (D. Neb. Nov. 1, 2012) (granting leave to amend); *Driessen v. Sony Music Entm't*,

The patent application process gives an inventor the ability to establish the boundaries of the inventor's property right; a patentee cannot legitimately complain if a competitor achieves the same result without intruding on the inventor's exclusive domain. *See Cimiotti Unhairing Co. v. American Fur Ref. Co.*, 198 U.S. 399, 410 (1905); App. 95a-96a (Linn, J., dissenting). This does not mean that inventors cannot secure meaningful protection for their inventions. "Most inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity." Mark A. Lemley et al., *Divided Infringement Claims*, 6 Sedona Conf. J. 117, 124 (2005). Akamai drafted its claims to cover performance of all steps by a single party – which is the way its system operated – and a CDN provider that performed all of those steps would infringe. But Limelight does not; Akamai should not be heard to claim a broader claim scope that it did not ask the PTO to examine and allow.

Singling out interactive method patents for special protection is particularly ill-advised because such patents are part of a class of computer-implemented patents that often disserve the innovation-promoting goals of patent law. Computer-implemented method patents "are often abstract," which "may result in granting patent protection for an invention far beyond the scope of the inventor's work." Stephen McJohn, *Scary Patents*, 7 Nw. J. Tech. & Intell. Prop. 343, at *2 (2009). This problem is exacerbated because, under current Federal Circuit law, software patentees generally are not required to "disclose much, if any, detail about their programs." Julie E.

No. 2:09-CV-0140-CW, 2012 WL 5293039 (D. Utah Oct. 23, 2012) (denying motion to dismiss in part).

Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 Cal. L. Rev. 1, 24-25 (2001). Furthermore, "the previous work in the field is often difficult to locate," so "[a] patent examiner or infringing defendant may not locate a piece of invalidating prior art." McJohn, *Scary Patents* at *2, *3; *see also* James Bessen & Michael J. Meurer, *Patent Failure* 22, 191 (2008) (noting that software patents are more than twice as likely to be litigated as other patents).

The types of "interactive" patents that are most likely to be implicated by the Federal Circuit's decision are those "without well-identified claim boundaries, with virtually no implementation details, and with few clues about the quality of claim implementation"; inflating the exclusive power of such patents reduces, rather than increases, innovation. Robert E. Thomas, *Debugging Software Patents: Increasing Innovation and Reducing Uncertainty in the Judicial Reform of Software Patent Law*, 25 Santa Clara Computer & High Tech. L.J. 191, 217-18 (2008-09). The Federal Circuit's decision increases the value of the very patents that may be least innovative and most prone to abuse. *See, e.g.*, Nicole D. Galli & Edward Gecovich, *Cloud Computing and the Doctrine of Joint Infringement: 'Current Impact' and Future Possibilities*, 11 J. Marshall Rev. Intell. Prop. L. 673, 691 (2012).

Akamai may argue that the Federal Circuit's decision is a wise policy choice – that it expands liability to capture those who unfairly take advantage of inventions revealed through others' patents without catching up "innocent" parties who may carry out steps of a method but who should not face potential liability. But such reasoning is at odds with patent

doctrine as it has developed over the history of the patent laws. Enforcement of patents in conformity with their claims is "essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730-31 (2002). If an accused infringer's "bad intent" expands the boundaries of a patentee's exclusive rights, the notice function of patents is severely compromised, with a chilling effect on productive activity and innovation. It is open to Congress to decide that "interactive" patents should be granted special protection. It should not be open to the Federal Circuit to do so.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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December 28, 2012

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UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 2009-1372, 2009-1380,
2009-1416, 2009-1417, 2010-1291

AKAMAI TECHNOLOGIES, INC.,
Plaintiff-Appellant,

AND

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,
Defendant-Cross Appellant.

AND

MCKESSON TECHNOLOGIES, INC.
(FORMERLY MCKESSON INFORMATION SOLUTIONS, LLC),
Plaintiff-Appellant,

v.

EPIC SYSTEMS CORPORATION,
Defendant-Appellee.

Aug. 31, 2012

Before RADER, Chief Judge, NEWMAN, LOURIE, BRYSON, LINN, DYK, PROST, MOORE, O'MALLEY, REYNA, and WALLACH, Circuit Judges.

Opinion of the court filed PER CURIAM. Dissenting opinion filed by Circuit Judge NEWMAN. Dissenting opinion filed by Circuit Judge LINN, in which Circuit Judges DYK, PROST, and O'MALLEY join.

PER CURIAM.

When a single actor commits all the elements of infringement, that actor is liable for direct infringement under 35 U.S.C. § 271(a). When a single actor induces another actor to commit all the elements of infringement, the first actor is liable for induced infringement under 35 U.S.C. § 271(b). But when the acts necessary to give rise to liability for direct infringement are shared between two or more actors, doctrinal problems arise. In the two cases before us, we address the question whether a defendant may be held liable for induced infringement if the defendant has performed some of the steps of a claimed method and has induced other parties to commit the remaining steps (as in the *Akamai* case), or if the defendant has induced other parties to collectively perform all the steps of the claimed method, but no single party has performed all of the steps itself (as in the *McKesson* case).

The problem of divided infringement in induced infringement cases typically arises only with respect to method patents. When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer. But in the case of method patents,

parties that jointly practice a patented invention can often arrange to share performance of the claimed steps between them. In fact, sometimes that is the natural way that a particular method will be practiced, as the cases before us today illustrate. Recent precedents of this court have interpreted section 271(b) to mean that unless the accused infringer directs or controls the actions of the party or parties that are performing the claimed steps, the patentee has no remedy, even though the patentee's rights are plainly being violated by the actors' joint conduct. We now conclude that this interpretation of section 271(b) is wrong as a matter of statutory construction, precedent, and sound patent policy.

Much of the briefing in these cases has been directed to the question whether direct infringement can be found when no single entity performs all of the claimed steps of the patent. It is not necessary for us to resolve that issue today because we find that these cases and cases like them can be resolved through an application of the doctrine of induced infringement. In doing so, we reconsider and overrule the 2007 decision of this court in which we held that in order for a party to be liable for induced infringement, some other single entity must be liable for direct infringement. *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed.Cir.2007). To be clear, we hold that all the steps of a claimed method must be performed in order to find induced infringement, but that it is not necessary to prove that all the steps were committed by a single entity.

I

The essential facts of the cases before us are as follows:

Akamai Technologies, Inc., owns a patent that covers a method for efficient delivery of web content. The claimed method consists of placing some of a content provider's content elements on a set of replicated servers and modifying the content provider's web page to instruct web browsers to retrieve that content from those servers. Akamai filed a complaint against Limelight Networks, Inc., alleging infringement of the patent. In its complaint, Akamai alleged both direct and induced infringement. Limelight maintains a network of servers and, as in the patented method, it allows for efficient content delivery by placing some content elements on its servers. Limelight, however, does not modify the content providers' web pages itself. Instead, Limelight instructs its customers on the steps needed to do that modification.

McKesson Information Solutions LLC owns a patent covering a method of electronic communication between healthcare providers and their patients. McKesson filed a complaint against Epic Systems Corp. alleging that Epic induced infringement of the patent. Epic is a software company that licenses its software to healthcare organizations. The licensed software includes an application called "MyChart," which permits healthcare providers to communicate electronically with patients. McKesson alleged that Epic induced Epic's customers to infringe McKesson's patent. Epic does not perform any steps of the patent. Instead, those steps are divided between patients, who initiate communications, and healthcare providers, who perform the remainder of the steps.

In the respective district court cases, Limelight and Epic were held not to infringe the patents asserted

against them. In *Akamai*, because Limelight's customers (and not Limelight itself) performed one of the steps of the claimed method, the district court granted Limelight's motion for judgment as a matter of law based on this court's opinions in *BMC* and *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed.Cir.2008). In *McKesson*, the district court relied on the same cases to grant summary judgment of noninfringement on the ground that the patients (and not Epic's direct customers) performed the step of initiating the communication.

II

A

This court has held that for a party to be liable for direct patent infringement under 35 U.S.C. § 271(a), that party must commit all the acts necessary to infringe the patent, either personally or vicariously. *See Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed.Cir.2005); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1568 (Fed.Cir.1983). In the context of a method claim, that means the accused infringer must perform all the steps of the claimed method, either personally or through another acting under his direction or control. Direct infringement has not been extended to cases in which multiple independent parties perform the steps of the method claim. Because direct infringement is a strict liability tort, it has been thought that extending liability in that manner would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that others were acting in a way that rendered their collective conduct infringing. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed.Cir.2007) (en banc)

("Because patent infringement is a strict liability offense, the nature of the offense is only relevant in determining whether enhanced damages are warranted."). For that reason, this court has rejected claims of liability for direct infringement of method claims in cases in which several parties have collectively committed the acts necessary to constitute direct infringement, but no single party has committed all of the required acts. *See BMC*, 498 F.3d at 1381 ("Direct infringement is a strict-liability offense, but it is limited to those who practice each and every element of the claimed invention."); *see also Muniauction*, 532 F.3d at 1329 (same).

To be sure, the court has recognized that direct infringement applies when the acts of infringement are committed by an agent of the accused infringer or a party acting pursuant to the accused infringer's direction or control. *See BMC*, 498 F.3d at 1380. Absent an agency relationship between the actors or some equivalent, however, a party that does not commit all the acts necessary to constitute infringement has not been held liable for direct infringement even if the parties have arranged to "divide" their acts of infringing conduct for the specific purpose of avoiding infringement liability. *See Cross Med. Prods.*, 424 F.3d at 1311 (no liability for direct infringement if the party that is directly infringing is not acting as an agent of, or at the direction of, the accused infringer).

Because the reasoning of our decision today is not predicated on the doctrine of direct infringement, we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a).

B

The induced infringement provision of the Patent Act, 35 U.S.C. § 271(b), provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." Because section 271(b) extends liability to a party who advises, encourages, or otherwise induces others to engage in infringing conduct, it is well suited to address the problem presented by the cases before us, i.e., whether liability should extend to a party who induces the commission of infringing conduct when no single "induced" entity commits all of the infringing acts or steps but where the infringing conduct is split among more than one other entity.

Induced infringement is in some ways narrower than direct infringement and in some ways broader. Unlike direct infringement, induced infringement is not a strict liability tort; it requires that the accused inducer act with knowledge that the induced acts constitute patent infringement. *See Global-Tech Appliances, Inc. v. SEB S.A.*, — U.S. —, 131 S.Ct. 2060, 2068, 179 L.Ed.2d 1167 (2011). In fact, this court has described the required intent as follows: "[I]nducement requires that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement." *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed.Cir.2006) (en banc) (internal quotation marks omitted).[1] On the other hand, inducement does not

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[1] Because liability for inducement, unlike liability for direct infringement, requires specific intent to cause infringement, using inducement to reach joint infringement does not present the risk of extending liability to persons who may be unaware of the existence of a patent or even unaware that others are practicing some of the steps claimed in the patent.

require that the induced party be an agent of the inducer or be acting under the inducer's direction or control to such an extent that the act of the induced party can be attributed to the inducer as a direct infringer. It is enough that the inducer "cause[s], urge[s], encourage[s], or aid[s]" the infringing conduct and that the induced conduct is carried out. *Arris Grp., Inc. v. British Telecomms. PLC*, 639 F.3d 1368, 1379 n. 13 (Fed.Cir.2011); *see also Tegal Corp. v. Tokyo Electron Co.*, 248 F.3d 1376, 1379 (Fed.Cir. 2001); *Nat'l Presto Indus., Inc. v. West Bend Co.*, 76 F.3d 1185, 1196 (Fed.Cir.1996) (analogizing inducement to aiding and abetting violations of criminal laws).

An important limitation on the scope of induced infringement is that inducement gives rise to liability only if the inducement leads to actual infringement. That principle, that there can be no indirect infringement without direct infringement, is well settled. *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961); *Henry v. A.B. Dick Co.*, 224 U.S. 1, 12, 32 S.Ct. 364, 56 L.Ed. 645 (1912). The reason for that rule is simple: There is no such thing as attempted patent infringement, so if there is no infringement, there can be no indirect liability for infringement.

That much is uncontroversial. In *BMC*, however, this court extended that principle in an important respect that warrants reconsideration. In that case, the court ruled that in order to support a finding of induced infringement, not only must the inducement give rise to direct infringement, but in addition the direct infringement must be committed by a single

actor. The court reached that conclusion based on the propositions that (1) liability for induced infringement requires proof of direct infringement and (2) liability for direct infringement requires that a single party commit all the acts necessary to constitute infringement. While those two propositions were well supported in this court's law, the conclusion that the court drew from them was not.

Requiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer. If a party has knowingly induced others to commit the acts necessary to infringe the plaintiff's patent and those others commit those acts, there is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement.

A party who knowingly induces others to engage in acts that collectively practice the steps of the patented method—and those others perform those acts—has had precisely the same impact on the patentee as a party who induces the same infringement by a single direct infringer; there is no reason, either in the text of the statute or in the policy underlying it, to treat the two inducers differently. In particular, there is no reason to hold that the second inducer is liable for infringement but the first is not.

Likewise, a party who performs some of the steps itself and induces another to perform the remaining steps that constitute infringement has precisely the same impact on the patentee as a party who induces

a single person to carry out all of the steps. It would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes further by actually performing some of the steps himself. The party who actually participates in performing the infringing method is, if anything, more culpable than one who does not perform any steps.

The text of the induced infringement statute is entirely consistent with this analysis. While the direct infringement statute, section 271(a), states that a person who performs the acts specified in the statute "infringes the patent," section 271(b) is structured differently. It provides that whoever "actively induces infringement of a patent shall be liable as an infringer." Nothing in the text indicates that the term "infringement" in section 271(b) is limited to "infringement" by a single entity. Rather, "infringement" in this context appears to refer most naturally to the acts necessary to infringe a patent, not to whether those acts are performed by one entity or several.

C

The legislative history of the 1952 Patent Act provides strong support for interpreting induced infringement not to require that a single entity—as opposed to multiple entities—commit all the acts necessary to constitute infringement. Prior to the 1952 Act, inducement and contributory infringement were both referred to under the rubric of contributory infringement. Giles S. Rich, *Infringement Under Section 271*, 21 Geo. Wash. L.Rev. 521, 537 (1953). The 1952 Act broke the two concepts out into separate subsections of section 271, covering induced infringement (in subsection (b)) and contributory

infringement (in subsection (c)). Subsection (b), the new inducement provision, was broad in scope. The House Report on the 1952 Act explained that the new subsection (b) "recites in broad terms that one who aids and abets an infringement is likewise an infringer." H.R.Rep. No. 82-1923, at 9. *See also* P.J. Federico, *Commentary on the New Patent Act* reprinted in 75 J. Pat. & Trademark Off. Soc'y 161, 214 (1993) (section 271(b) "is a broad statement and enactment of the principle that one who actively induces infringement of a patent is likewise liable for infringement").[2] On the other hand, subsection (c) represented a compromise between differing views as to the proper scope of the doctrine of contributory infringement. The portions of the legislative history addressing subsection (c) show that it was responding to the Supreme Court's decisions in several then-recent cases that had applied the doctrine of patent misuse in a way that substantially restricted the scope of contributory infringement.[3] The compromise

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[2] Federico's commentary, first published in 1954, has been cited by this court as constituting "an invaluable insight into the intentions of the drafters of the Act." *Symbol Techs., Inc. v. Lemelson Med.*, 277 F.3d 1361, 1366 (Fed.Cir.2002).

[3] The cases to which the legislation was principally directed were *Mercoid Corp. v. Mid-Continent Investment Co.*, 320 U.S. 661, 64 S.Ct. 268, 88 L.Ed. 376 (1944), and *Mercoid Corp. v. Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680, 64 S.Ct. 278, 88 L.Ed. 396 (1944), which extended the patent misuse doctrine of *Carbice Corp. of America v. American Patents Development Corp.*, 283 U.S. 27, 51 S.Ct. 334, 75 L.Ed. 819 (1931), and *Leitch Manufacturing Co. v. Barber Co.*, 302 U.S. 458, 58 S.Ct. 288, 82 L.Ed. 371 (1938). *See Contributory Infringement of Patents: Hearings Before the Subcomm. on Patents, Trademarks, and Copyrights of the H. Comm. on the Judiciary*, 80th Cong. 4 (1948) (statement of G. Rich on behalf of the New York Patent Law Association).

that Congress adopted with respect to subsection (c) restored the doctrine of contributory infringement and confined the scope of the Supreme Court's patent misuse cases, but it did not go as far as some in the patent bar would have liked. *See Hearing on H.R. 3866 Before Subcomm. No. 4 of the H. Comm. on the Judiciary*, 81st Cong. 20 (1949) ("1949 Hearing") (statement of G. Rich) ("So we have made what we consider to be a fair compromise, and we have pushed back these misuse situations to cover only those cases where we think the patentee is entitled to honest protection and justice.").

Although less was said about induced infringement than about contributory infringement in the legislative history, what was said was significant. Giles Rich, one of the principal drafters of the statute, and a frequent witness at hearings on the legislation, made clear in the course of his statement during an early House hearing on contributory infringement that the revised provisions on infringement were intended to reach cases of divided infringement, even when no single entity would be liable for direct infringement. In the course of his statement commenting on the proposed version of what was to become section 271(b) of the 1952 Act, Judge (then Mr.) Rich addressed the problem of "combination patents" and stated the following:

> Improvements in such arts as radio communication, television, etc., sometimes involve the new combinations of elements which in use are normally owned by different persons. Thus, a new method of radio communication may involve a change in the transmitter and a corresponding change in the receiver. To describe such an invention in patent claims, it is necessary either to specify *a new*

> *method which involves both transmitting and receiving*, or a new combination of an element in the receiver and an element in the transmitter. There are patents with such claims covering television inventions of importance.
>
> The recent decisions of the Supreme Court [the cases targeted by the statutory changes] appear to make it impossible to enforce such patents in the usual case where a radio transmitter and a radio receiver are owned and operated by different persons, *for, while there is obvious infringement of the patent, there is no direct infringer of the patent but only two contributory infringers.*

Contributory Infringement of Patents: Hearings Before the Subcomm. on Patents, Trademarks, and Copyrights of the H. Comm. on the Judiciary, 80th Cong. 5 (1948) ("1948 Hearing") (statement of G. Rich on behalf of the New York Patent Law Association) (emphasis added).

Judge Rich's statement makes clear that he saw no anomaly in finding liability for indirect infringement when there was "obvious infringement of the patent" even though there was "no direct infringer of the patent." In the hypothetical case that he described, involving a claim to a method in which changes would be made in both a transmitter and a receiver, he expressly stated that the "obvious infringement" should be remediable, even though "there is no direct infringer" of the patent, a description that perfectly fits the two cases before us.

As if to lay to rest any doubts as to his views of the proper scope of indirect infringement under the new statute, Judge Rich added, in response to questioning, that "contributory infringement [apparently referring to both contributory infringement and

induced infringement] is a specific application to patent law of the law of joint tort feasor where two people somehow together create an infringement which neither one of them individually or independently commits." *Id.* at 12; *see also* 1949 Hearing 3 (remarks of G. Rich) ("When two people combine and infringe a patent in some way or other, they are joint tort feasors, and it so happens that patents are often infringed by people acting in concert, either specifically or by implication, where neither one of them is a direct infringer."). Again, Judge Rich's comments clearly indicate that he viewed indirect infringement as an available remedy even in the absence of any single direct infringer.

The principles of contributory and induced infringement set forth in the earlier bills were carried forward into the 1952 Act and continued to serve the purpose of restoring the principles of contributory infringement that had been cast into doubt by the then-recent patent misuse decisions. *See* H.R.Rep. No. 82-1923, at 9 (1952); *Patent Law Codification and Revision, Hearings Before Subcomm. No. 3 of the H. Comm. on the Judiciary*, 82d Cong. 151-52 (1951); Rich, *Infringement Under Section 271*, *supra*, at 535-36, 541 (substance of 271 was carried forward from previous bills).

D

A principal's liability for acts committed not only through an agent but also by an innocent intermediary who was induced by the principal is not an idiosyncrasy of patent law, but is found in other areas of the law as well. For example, the aiding and abetting provision in the Federal Criminal Code states, in language similar to the language of section 271(b) of the Patent Act, that "[w]hoever commits an

offense against the United States or aids, abets, counsels, commands, induces or procures its commission is punishable as a principal," 18 U.S.C. § 2(a), and "[w]hoever willfully causes an act to be done which if directly performed by him or another would be an offense against the United States, is punishable as a principal," *id.* § 2(b). That statute has been construed to permit the conviction of an accessory who induces or causes a criminal offense even when the principal is found not liable for the unlawful conduct. *Standefer v. United States*, 447 U.S. 10, 19, 100 S.Ct. 1999, 64 L.Ed.2d 689 (1980). As long as the induced criminal conduct has occurred, the inducer's liability does not turn on whether the intermediary is factually guilty or even capable of committing the charged offense. *See United States v. Tobon-Builes*, 706 F.2d 1092, 1099 (11th Cir.1983) (defendant is liable if he causes an intermediary to commit a criminal act, even though the intermediary who performed the act has no criminal intent and hence is innocent of the substantive crime charged); *United States v. Gleason*, 616 F.2d 2, 20 (2d Cir.1979) ("[A] person who causes an innocent party to commit an act which, if done with the requisite intent, would constitute an offense may be found guilty as a principal even though he personally did not commit the criminal act."); *United States v. Rapoport*, 545 F.2d 802, 806 (2d Cir.1976) ("Section 2(b) . . . 'removes all doubt that one who puts in motion or assists in the illegal enterprise or causes the commission of an indispensable element of the offense by an innocent agent or instrumentality, is guilty . . . .'") (quoting Reviser's Note to section 2(b)).[4] Under that provi-

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[4] *Shuttlesworth v. City of Birmingham*, 373 U.S. 262, 83 S.Ct. 1130, 10 L.Ed.2d 335 (1963), cited in Judge Linn's dissent, is

sion, a defendant cannot avoid criminal liability by arranging for another to perform some part of the proscribed conduct. *See United States v. Hornaday*, 392 F.3d 1306, 1313 (11th Cir.2004) ("Section 2(b) . . . is obviously designed for the situation in which . . . the defendant supplies the intent and maybe another element or two while getting someone else to supply at least one additional element that is necessary to the commission of the crime."); *United States v. Pearson*, 667 F.2d 12, 13 (5th Cir.1982) (Section 2 "allows a jury to find a person guilty of a substantive crime even though that person did not commit all acts constituting the elements of the crime.").

Tort law also recognizes the doctrine of liability for inducing innocent actors to commit tortious acts. The Second Restatement of Torts provides that a person is liable for tortious conduct if he "orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own." *Restatement (Second) of Torts* § 877(a) (1979). That basis for liability is "independent of the existence of liability" based "on the ground that [the defendant] was principal or master." *Id.* § 877 cmt. a.

The analogy to tort law is particularly telling because for induced infringement under section

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inapposite. In that case, the underlying act was innocent, not because of any lack of scienter or immunity on behalf of the principals, but because the act the petitioners were charged with aiding and abetting did not constitute a crime. *Id.* at 265, 83 S.Ct. 1130 ("There was no evidence that any of the demonstrations which resulted from the meeting were disorderly or otherwise in violation of law.") By analogy, in patent law a party would not be liable for inducing infringement by encouraging others to engage in conduct that is not within the claims of the patent in suit.

271(b) the courts look to the common law principles of joint tortfeasance. *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469 (Fed.Cir.1990); *see also Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 500, 84 S.Ct. 1526, 12 L.Ed.2d 457 (1964). Prior to the enactment of the Patent Act in 1952, courts applied indirect infringement to anyone who "commands, directs, advises, encourages, procures, instigates, promotes, controls, aids, or abets" patent infringement. Rich, *Infringement Under Section 271*, *supra*, at 525. Section 271(b) was enacted to codify that doctrine, which in turn was based on "the old common law doctrine of joint tort feasors." *Id.* at 537. In that setting, liability requires proof that the defendant "knowingly induced infringement and possessed specific intent to encourage another's infringement." *DSU Med. Corp.*, 471 F.3d at 1306.

The First Restatement of Torts, which was in effect at the time the 1952 Patent Act was enacted, draws an even sharper line than the Second Restatement between vicarious liability for tortious conduct and liability for inducing tortious conduct by others. Section 877 of the First Restatement sets forth the rules of vicarious liability for "a person directing or permitting conduct of another." *Restatement of Torts* § 877 (1938). Section 876 sets forth the rules of liability for inducement of tortious conduct, including the requirement of scienter. It states that a person is liable if he "orders or induces [tortious] conduct, knowing of the conditions under which the act is done or intending the consequences which ensue," or if he "knows that the other's conduct constitutes a breach of duty and gives substantial assistance or encouragement to the other so to conduct himself." *Id.* § 876.

Moreover, the First Restatement makes clear that the rule imposing liability for inducement of a tort applies even if the person being induced is unaware that his act is injurious and is not liable for that reason. *Id.* § 876 cmt. b; *see Hoyt v. Clancey*, 180 F.2d 152, 158 (8th Cir.1950) (defendant liable for false representations passed through an innocent intermediary, intermediary not liable); *Davis v. Louisville Trust Co.*, 181 F. 10, 15 (6th Cir.1910) (same); *Graham v. Ellmore*, 135 Cal.App. 129, 26 P.2d 696 (1933) (same); *Moyer v. Lederer*, 50 Ill.App. 94 (Ill. App.Ct.1893) (same); *Kuehl v. Parmenter*, 195 Iowa 497, 192 N.W. 429 (Iowa 1923) (same); *see also Restatement of Torts* § 880 cmt. a (one who induces a witness to make a defamatory remark on the witness stand is liable even though the witness enjoys immunity from liability); *Laun v. Union Elec. Co.*, 350 Mo. 572, 166 S.W.2d 1065, 1071 (1943) (same); *Midford v. Kann*, 32 A.D. 228, 52 N.Y.S. 995 (N.Y. App.Div.1898) (defendant liable for false imprisonment for directing police to arrest former employees as trespassers without regard to whether police were liable). The implication of that principle, as applied in the divided infringement context, is that a party may be liable for inducing infringement even if none of the individuals whose conduct constituted infringement would be liable, as direct infringers, for the act of infringement that was induced.[5]

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[5] The same rule extending liability for "intentionally inducing or encouraging direct infringement" has been adopted in copyright law, *see Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930, 936, 125 S.Ct. 2764, 162 L.Ed.2d 781 (2005), but the issue presented in this case—whether the induced acts of infringement must be performed by a single entity that would be liable for infringement—does not appear to have been addressed in copyright cases.

Judge Linn's dissent argues that the cited cases based liability on "breach of a direct duty" and are therefore "direct liability cases." That misses the point being made. The cited cases all involved intermediate actors who directly caused the injury to the plaintiff, but were not liable for that injury, while the party who induced the action causing the injury was held liable. As in those cases, an inducer of infringement has a duty not to cause the acts that constitute infringement even if the parties who cause the direct injury are not liable. The law frequently imposes a duty (and liability upon breach of the duty) on parties who use innocent third parties to carry out harmful acts. *See Pelster v. Ray*, 987 F.2d 514, 523-24 (8th Cir.1993) (civil liability for rolling back odometer attaches to anyone in the chain of ownership who knew of fraudulent reading, but not to innocent intermediaries); *Learjet Corp. v. Spenlinhauer*, 901 F.2d 198, 203 (1st Cir.1990) (cause of action for fraudulent misrepresentation by aircraft owner against aircraft manufacturer was proper where manufacturer allegedly made false representations to FAA to obtain certification and owner relied on FAA certification when purchasing aircraft); *Hawkins v. Upjohn Co.*, 890 F.Supp. 609, 611-12 (E.D.Tex.1994) (indirect reliance by plaintiffs on misrepresentations by defendants to FDA in effort to secure approval of drugs was sufficient to state claim of fraud); *see also Restatement (Second) of Torts* § 533 (one who makes a fraudulent misrepresentation is subject to liability to one who relies on it to his detriment, even though the misrepresentation was not made directly to the injured party).

E

Judge Linn's dissent argues that the approach we adopt today has the effect of "defin[ing] direct infringement differently for the purposes of establishing liability under § 271(a) and (b)." That is not so, and the structure of section 271 explains why. Section 271(a) does not define the term "infringement." Instead, it simply sets forth a type of conduct that qualifies as infringing, i.e., it provides that anyone who makes, uses, or sells, etc., any patented invention "infringes the patent." Section 271(b) sets forth another type of conduct that qualifies as infringing, i.e., it provides that anyone who induces infringement "shall be liable as an infringer." But nothing in the text of either subsection suggests that the act of "infringement" required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a).

An examination of other subsections of section 271 confirms that the statute uses the term "infringement" in a way that is not limited to the circumstances that give rise to liability under section 271(a). For example, section 271(e)(2) makes it an "act of infringement" to submit an application to the FDA for a drug, or the use of a drug, claimed in a patent; that use of the term "infringement" is not in any way tied to the use of the term "infringes" in section 271(a). Similarly, section 271(f) provides that a party shall be "liable as an infringer" if it supplies in the United States a substantial portion of the components of a patented invention in such manner as to induce the combination of those components outside the United States. Again, the statutory term "infringer" does not advert to the requirements of

section 271(a); indeed, it is not even necessary that the components are ever actually assembled abroad after export. *See Waymark Corp. v. Porta Sys. Corp.*, 245 F.3d 1364, 1367-68 (Fed.Cir.2001). Finally, section 271(g) provides that a person who imports into the United States a product made by a process patented in the United States "shall be liable as an infringer." That provision likewise does not require that the process used to make the imported product be "infringing" in a way that would satisfy section 271(a), such as being performed by a single entity.

Judge Linn's dissent also relies on another provision of the Patent Act, 35 U.S.C. § 281, which states, "A patentee shall have remedy by civil action for infringement of his patent." Section 281, however, was designed to serve as a "preamble" for the sections on remedies and to ensure that an action for infringement (a "civil action") would be triable to a jury. *See* H.R.Rep. No. 82-1923, at 10, 29 (1952). It also serves to ensure that only "[a] patentee" may bring a civil action for infringement. *See Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 240 F.3d 1016, 1017 (Fed.Cir.2001). It cannot also be read to mean that any act of infringement will necessarily be remediable through a civil action; it does not, for example, give a patentee a "remedy by civil action" (i.e., in district court, *see* Fed.R.Civ.P. 2) against state or federal officers who are protected from suit and liability by sovereign immunity or (in the case of federal officers) who are suable only in a nonjury proceeding in the Court of Federal Claims.

The origin of section 281 is enlightening in this regard. When the bill that ultimately became the 1952 Act was first introduced in 1950 (as H.R. 9133), the subsection that would become section 271 read as

follows: "Any person who makes, uses or sells any patented machine, manufacture, composition of matter or improvement, or uses any patented process or improvement, within the territory of the United States and its Territories during the term of the patent therefor without authority, infringes the patent *and shall be liable to a civil action for infringement*, except as otherwise provided in this title." (emphasis added). That version of section 271 stated only that one who directly infringes a patent shall be liable. It did not declare that any practicing of a patented invention necessarily brought with it the right of the patent owner to recover in a civil action for infringement. The emphasized language was later moved and turned into a separate section—section 281—but with no indication that a change in meaning was intended. There is certainly no suggestion in the legislative history (or in subsequent caselaw) that section 281 was meant to restrict the scope of liability for induced infringement under section 271(b) to cases in which a single entity would be liable for direct infringement.

Looking to case law, Judge Linn's dissent relies heavily on prior decisions of this court and on the Supreme Court's decision in *Aro*, contending that those authorities compel us to hold that liability for induced infringement of a method claim depends on showing that a single induced entity would be liable for direct infringement of the claim. While the *BMC* case stands for that proposition, our earlier precedents, and the Supreme Court's decision in *Aro*, do not so hold.

In reciting the rule that indirect infringement requires a single entity to commit all the acts necessary to constitute direct infringement, the court in

BMC cited this court's earlier opinion in *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1272 (Fed.Cir.2004). The cited portion of the *Dynacore* case stands for the proposition that indirect infringement "can only arise in the presence of direct infringement." 363 F.3d at 1272. That proposition, however, is different in an important respect from the proposition articulated in *BMC*. *Dynacore* required that there be infringement in order for there to be inducement of infringement. As noted above, that is a sound and uncontroversial proposition. *BMC*, however, extended that proposition to require that a single party commit the entire act of direct infringement, an extension that is not supported by the decision in *Dynacore*.[6] That broader proposition invites evasion of the principles of patent infringement and serves no policy-based purpose. If an entity has induced conduct that infringes a patent, there is no justification for immunizing the inducer from liability simply because no single party commits all of the components of the appropriative act.

Both Limelight and Epic (like Judge Linn's dissent) rely on the Supreme Court's decision in *Aro* in support of their contention that liability for inducement

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[6] The *Dynacore* case dealt with a patent on a type of local area network. 363 F.3d at 1266. The issue in the case was whether manufacturers of networking equipment that was capable of being used to form an infringing network were liable for indirect infringement. *Id.* at 1272. Dynacore alleged only a "hypothetical direct infringement" and did not show that any specific infringing network was ever created. The court held that liability for indirect infringement required proof that actual infringement occurred, but the court did not hold that Dynacore could meet its burden of showing direct infringement only by proving that a single entity created the infringing network.

requires that a single party be liable for direct infringement, but *Aro* does not stand for that proposition. *Aro* dealt with a patent for automobile convertible tops, including the fabric and supporting structures. 365 U.S. at 337, 81 S.Ct. 599. The accused product was fabric that was intended to replace the original fabric in the convertible top when it wore out. The specific question addressed by the Court was "does the car owner [directly] infringe (and the supplier contributorily infringe) the combination patent when he replaces the spent fabric without the patentee's consent?" *Id.* at 339, 81 S.Ct. 599. Because the Court concluded that replacing the fabric was not an infringing "reconstruction," but instead was a permissible "repair," the Court held that the car owner did not infringe the patent. And because there was no direct infringement, there was no contributory infringement. As the Court explained: "In a word, if there is no infringement of a patent there can be no contributory infringer[.]" *Id.* at 345, 81 S.Ct. 599. Importantly, it was because the purchaser of the fabric was engaged in repair rather than reconstruction—and thus was not guilty of infringement at all—that the Court found there could be no contributory infringement. That case therefore does not stand, expressly or implicitly, for the proposition that there can be no induced infringement if there is actual infringing conduct but the acts necessary to constitute the infringement are committed by more than one party.

In the course of its analysis, the *Aro* Court quoted from a dissenting opinion in an earlier case, which stated that "if the purchaser and user [of a product] could not be amerced as an infringer certainly one who sold to him . . . cannot be amerced for contrib-

uting to a non-existent infringement." *Id.* (quoting *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 674, 64 S.Ct. 268, 88 L.Ed. 376 (1944) (Roberts, J., dissenting)). Although the reference to a direct infringer being "amerced" as an infringer could suggest that the Court considered liability for direct infringement as a predicate for indirect infringement, the Court in both cases was addressing direct infringement involving only a single party.

Unlike the present case, which deals with method claims, *Aro* dealt with product claims. In the case of a product claim, the party that adds the final element to the combination "makes" the infringing product and thus is liable for direct infringement even if others make portions of the product. *See Cross Med. Prods.*, 424 F.3d at 1312 (holding there was a genuine issue of fact as to whether surgeons infringe by "making" the claimed product when they complete the last limitation (contacting the anchor seat of the device with bone)). For product claims, whenever the product is made, used, or sold, there is always a direct infringer. Hence, the *Aro* Court, dealing only with product claims, was not presented with the divided infringement question we address today. For that reason, the Court's allusion to the potential liability of a direct infringer cannot reasonably be treated as suggesting that, as a predicate for indirect infringement, all of the steps necessary to constitute direct infringement of a method claim must be committed by a single party.

In cases prior to *BMC*, this court on numerous occasions recited the familiar and uncontroversial proposition that one of the elements of induced infringement is proof that there has been direct infringement. *See, e.g., Micro Chem., Inc. v. Great*

Plains Chem. Co., 103 F.3d 1538, 1549 (Fed.Cir. 1997); *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed.Cir.1993); *Met-Coil Sys. Corp. v. Korners Unlimited, Inc.*, 803 F.2d 684, 687 (Fed.Cir.1986). On occasion, the court described that principle by reference to direct infringement by "some party" or the party accused of direct infringement in the case. *See, e.g., Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1318 (Fed.Cir.2003); *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1033 (Fed.Cir.2002); *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1351 (Fed.Cir.2001); *Kendall Co. v. Progressive Med. Tech., Inc.*, 85 F.3d 1570, 1573 (Fed.Cir.1996); *C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc.*, 911 F.2d 670, 673 (Fed.Cir.1990). But in none of those cases did the court hold that, as a predicate for a finding of indirect infringement, all the steps of a method claim must be performed by the same entity. Those cases trace the rule that direct infringement is a prerequisite for induced indirect infringement back to the Supreme Court's opinion in *Aro* and its predecessors which, as discussed above, did not require that all the infringing steps be performed by a single actor.

The cases that predated *Aro* likewise did not apply the "single direct infringer" requirement as a predicate for induced infringement; instead, they emphasized that what was induced was the fact of infringement, not liability for direct infringement by a single actor. In one of the leading early cases, Judge (later Chief Justice) Taft wrote for the Sixth Circuit that it was "well settled that where one makes and sells one element of a combination covered by a patent with the intention and for the purpose of bringing about

its use in such a combination he is guilty of contributory infringement." *Thomson-Houston Elec. Co. v. Ohio Brass Co.*, 80 F. 712, 721 (6th Cir.1897). Most of the early cases involved product claims, not process claims, and therefore the ultimate purchaser or user of the patented invention was a direct infringer, so the problem of divided infringement did not arise. Where it did arise, however, courts continued to look to the doctrine of induced (or contributory) infringement as a basis for liability of parties who had induced the infringing conduct.

For example, in *Solva Waterproof Glue Co. v. Perkins Glue Co.*, 251 F. 64 (7th Cir.1918), the defendants performed one step of a two-step process claim and relied upon their customers to perform the second step of the process. The court held the defendant to be a contributory infringer. It explained that the "rule of law in such case is that one who makes and sells one element of a patented combination with the intention and for the purpose of bringing about its use in such a combination is guilty of contributory infringement." 251 F. at 73-74.

Similarly, in *Peerless Equipment Co. v. W.H. Miner, Inc.*, 93 F.2d 98 (7th Cir.1937), the Seventh Circuit dealt with a case closely analogous to the cases at bar. In that case, which involved a patent containing process claims, the defendant performed all the steps of the claimed process except the last. The purchaser would perform the last step after delivery of the products. The court observed that the defendant knew that the purchasers would perform that step. Accordingly, the court held that the defendant was "guilty of contributory infringement of each of the process claims." 93 F.2d at 105.

This court reached the same result in *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565 (Fed.Cir. 1983). The patent in that case involved both product and process claims. As in the *Peerless* case, the defendant performed all but the last step of the recited process; the last step was performed by the defendant's customers. Because no single party performed all the steps, the court stated that the defendant "cannot be liable for direct infringement." *Id.* at 1568. However, it added, the defendant "could be liable for contributory infringement." *Id.* at 1567-68. That case thus provides direct support for the two key propositions at issue in this case: (1) that liability for direct infringement requires that some actor perform all of the limitations (including the steps of a process claim), either personally or vicariously; and (2) that induced infringement can be found even if there is no single party who would be liable for direct infringement.

In summing up its objections to this court's ruling, Judge Linn's dissent argues that the court today is making a "sweeping change to the nation's patent policy" that goes beyond the proper scope of the court's authority and that a step such as the one taken by the en banc court today should be left to Congress. Of course, the question whether the majority's position constitutes a change in the law, or whether the dissent's position would constitute a change, depends on what one thinks the prior rule was. Based on the legislative history, general tort principles, and prior case law, including this court's decision in *Fromson*, we believe that *BMC* and the cases that have followed it changed the pre-existing regime with respect to induced infringement of method claims, although admittedly at that time

there were relatively few cases in which that issue had arisen. In either event, the court's task is to attempt to determine what Congress had in mind when it enacted the induced infringement statute in 1952. At the end of the day, we are persuaded that Congress did not intend to create a regime in which parties could knowingly sidestep infringement liability simply by arranging to divide the steps of a method claim between them. And we have found no evidence to suggest that Congress intended to create different rules for method claims than for other types of claims. While we believe that our interpretation of section 271(b) represents sound policy, that does not mean that we have adopted that position as a matter of policy preference. In the process of statutory interpretation, it is relevant to ask what policy Congress was attempting to promote and to test each party's proposed interpretation by asking whether it comports with that policy. In these cases, we conclude that it is unlikely that Congress intended to endorse the "single entity rule," at least for the purpose of induced infringement, advocated by Epic and Limelight, which would permit ready evasion of valid method claims with no apparent countervailing benefits.

III

In the *McKesson* case, Epic can be held liable for inducing infringement if it can be shown that (1) it knew of McKesson's patent, (2) it induced the performance of the steps of the method claimed in the patent, and (3) those steps were performed. McKesson preserved its claim of induced infringement, even though this court's decisions in *BMC* and *Muniauction* made the inducement claim difficult to

maintain. McKesson is entitled to litigate that issue on remand to the district court.

In the *Akamai* case, although the jury found that the content providers acted under Limelight's direction and control, the trial court correctly held that Limelight did not direct and control the actions of the content providers as those terms have been used in this court's direct infringement cases. Notwithstanding that ruling, under the principles of inducement laid out above, Limelight would be liable for inducing infringement if the patentee could show that (1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content providers in fact performed that final step.

Although the patentee in *Akamai* did not press its claim of induced infringement at trial, it argues this court should overrule "the mistaken view that only a single entity can infringe a method claim." That argument, while focused on direct infringement, is critical to the conclusion that divided infringement can give rise to liability, whether under a theory of direct infringement or induced infringement. While we do not hold that Akamai is entitled to prevail on its theory of direct infringement, the evidence could support a judgment in its favor on a theory of induced infringement. For that reason, we conclude that Akamai should be given the benefit of this court's ruling disapproving the line of divided infringement cases that the district court felt compelled to follow. We therefore reverse the judgment in both cases and remand in both cases for further proceedings on the theory of induced infringement.

REVERSED and REMANDED

NEWMAN, Circuit Judge, dissenting.

This *en banc* court has split into two factions, neither of which resolves the issues of divided infringement. A scant majority of the court adopts a new theory of patent infringement, based on criminal law, whereby any entity that "advises, encourages, or otherwise induces," [App. 7a], or "causes, urges, encourages, or aids the infringing conduct," [App. 8a], is liable for the infringing conduct. The majority further holds that only the "inducer" is liable for divided infringement, and that the direct infringers are not liable although the patent rights are "plainly being violated by the actors' joint conduct." [App. 3a]. These are dramatic changes in the law of infringement.

On this new "inducement-only rule," the inducing entity is liable on greatly enlarged grounds, such as merely advising or encouraging acts that may constitute direct infringement. This new rule is not in accordance with statute, precedent, and sound policy. It raises new issues unrecognized by the majority, and contains vast potential for abuse. In turn, the two cases here on appeal can readily be resolved under existing law, as the majority opinion almost acknowledges in its remand instructions. [App. 29a-30a].

In contrast, a significant minority of the *en banc* court continues to favor the "single-entity rule," whereby divided infringement is not actionable at all unless all of the participants are in a contract or agency relationship that is directed or controlled by a single "mastermind." Although review of the single-entity rule was the sole reason for this rehearing *en banc*, and the sole question briefed by the parties and the *amici curiae*, this aspect is not resolved by

the majority, which simply states that it will not review the law of direct infringement, apparently on the theory that the inducement-only rule renders irrelevant whether there is a single mastermind of the direct infringement.

Neither faction provides a reasonable answer to the *en banc* questions concerning divided infringement. However, the issues of liability and remedy arising from interactive methods and collaborative performance are readily resolved by application of existing law. Issues of induced infringement are not new, but this aspect is ill served by the majority's distortion of the inducement statute, 35 U.S.C. § 271(b), and has no support in theory or practice. This new rule simply imposes disruption, uncertainty, and disincentive upon the innovation communities. I respectfully dissent.

DISCUSSION

This *en banc* court was convened in order to resolve inconsistencies in past panel rulings for situations in which different entities perform separate parts of a patented method. In the two earlier decisions whose rulings were the announced focus of this *en banc* review, *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed.Cir.2007) and *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed.Cir.2008), panels of this court held that when separate entities perform the steps of a patented method, there cannot be direct infringement unless a single mastermind directs or controls the performance of all of the steps. These decisions held that since there cannot be direct infringement without such direction or control, there cannot be indirect infringement by inducement or contributory infringement. Thus, the court held that there can be no liability for infringement, although

all of the claim steps are performed. *BMC Resources*, 498 F.3d at 1379; *Muniauction*, 532 F.3d at 1329. This single-entity rule was applied by the district courts in the *Akamai* and *McKesson* decisions that are here on appeal, to deny all liability for infringement. We took these appeals *en banc* in order to resolve the conflicts within precedent.

The *en banc* court has been unable to reach consensus. The dissenting opinion authored by Judge Linn adheres to the single-entity rule, and the majority opinion presents the new position that when more than one entity performs the steps of a patented invention, the only liable entity is the inducer, not those who directly infringe the claim. Such an inducement-only rule has never been held, in any case. It has no foundation in statute, or in two centuries of precedent. The *en banc* majority, embracing this new rule, does not acknowledge the new problems of enforcement and compensation and defense that are also created, the new opportunities for gamesmanship and abuse and inequity. For example, if the direct infringers are not liable for infringement, one wonders whether they are subject to damages or injunction. These and other critical issues should be considered before a new law of inducement-only infringement is adopted.

The majority holds that there is "a duty not to cause the acts that constitute infringement even if the parties who cause the direct injury are not liable." [App. 19a]. I agree that we all have a duty to respect the law, but in the complexities of technology and commerce, one must wonder at the imposition of liability solely for "urg[ing]" or "encourag[ing]," [App. 8a], while exonerating direct infringers from liability

when the patented method is "collectively practice[d]." [App. 9a].

The prior laws of infringement effectively handled interactive and collaborative forms of infringement, before either the single-entity rule or the inducement-only rule. Before the law is changed so that only an inducer can be liable for divided infringement, on loose criteria for inducement, this court should at least obtain the advice of those who understand the consequences of this change in infringement law. This unannounced *en banc* ruling is made without briefing by the parties or notice to the *amici curiae*.[1]

I

THE *EN BANC* ISSUE

The only issue for which these cases were taken *en banc*, the only issue on which briefing was solicited from the parties and *amici curiae*, was the conflict in precedent arising from the single-entity rule of

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[1] Briefs *amicus curiae* were filed by Altera Corp., HTC Corp., HTC America, Inc., and Weatherford International; American Intellectual Property Law Association; Aristocrat Technologies Australia Pty Ltd. and Aristocrat Technologies, Inc.; Apple Inc.; Biotechnology Industry Organization; Boston Patent Law Association; CTIA—The Wireless Association and MetroPCS Wireless, Inc.; Cascades Ventures, Inc. and VNS Corp.; Cisco Systems, Inc., Dell, Inc., eBay Inc., Google Inc., Hewlett-Packard Co., Intel Corp., Intuit, Inc., Micron Technology, Inc., NetApp, Inc., RingCentral, Inc., SAP America, Inc., Symantec Corp., Yahoo, Inc., and Zynga Inc.; Conejo Vally Bar Association; Electronic Frontier Foundation; Encore Wire Corp.; Facebook, Inc. and LinkedIn Corp.; Internet Retailers; Myriad Genetics, Inc.; New York Intellectual Property Law Association; Pharmaceutical Research and Manufacturers of America; Shuffle Master, Inc.; The Financial Services Roundtable; San Diego Intellectual Property Law Association, The Foundry Group, First Round Capital, and Kedrosky Capital; Thomson Reuters Corp.; and Washington State Patent Law Association.

BMC Resources and *Muniauction*. The concerned communities had expressed concern with this conflict, but the *en banc* majority now declines its responsibility, and states that "we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement." [App. 6a]. The majority rejects the single-entity rule only "as a predicate for a finding of indirect infringement." [App. 26a]. The majority explains that it overrules *BMC Resources* "in which we held that in order for a party to be liable for induced infringement, some other single entity must be liable for direct infringement." [App. 3a].

Instead, the majority holds that when more than one entity is involved, only the inducer is liable for infringement, although the patent rights are "plainly being violated by the actors' joint conduct," and the inducer acts to "encourage[]" the infringement. [App. 3a, 7a-8a]. The court thus avoids the *en banc* issue, even as it creates a new liability; yet the court gives no attention to the accompanying new issues such as the measure of damages, or the availability of remedy against direct infringement. While the majority states that it "overrule[s]" *BMC Resources*, [App. 3a], it is far from clear, for the majority also cites *BMC Resources* and *Muniauction* as precedent, [App. 6a] ("[T]his court has rejected claims of liability for direct infringement of method claims in cases in which several parties have collectively committed the acts necessary to constitute direct infringement, but no single party has committed all of the required acts."), and *id.* ("To be sure, the court has recognized that direct infringement applies when the acts of infringement are committed by an agent of the accused infringer or a party acting pursuant to the accused in-

fringer's direction or control."). The majority appears to overrule only a single sentence of *BMC Resources*, at 498 F.3d at 1379: "Indirect infringement requires, as a predicate, a finding that some party amongst the accused actors has committed the entire act of direct infringement." The majority also defines "inducement" as not "direction or control to such an extent that the act of the induced party can be attributed to the inducer as a direct infringer," [App. 8a], and preserves the rulings of *Muniauction* and *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed.Cir.2010), and holds that interactive and collaborative infringement is not actionable. The majority's theory is a spontaneous judicial creation. And it is wrong.

It is apparent that this jurisprudence is in need of correction, clarification, and consistency, for neither the single-entity rule nor the majority's newly minted inducement-only rule is in accord with the infringement statute, or with any reasonable infringement policy. In contrast, the established law and precedent of 35 U.S.C. § 271 can readily reach and remedy every infringement situation that has been presented.

Cases of divided infringement have not caused past turmoil, as the majority announces. However, turmoil will surely be created, to the detriment of technological advance and its industrial development, for stability and clarity of the law are essential to innovative commerce.

II

THE SINGLE-ENTITY RULE

Questions of divided infringement are not new, but resolution by way of the single-entity rule is plainly inadequate. The district court remarked in the *McKesson* case, after applying this court's rulings

in *BMC Resources* and *Muniauction*, that the single-entity rule leaves a meritorious patentee without redress:

> [T]he single entity rule and *BMC*'s interpretation thereof severely limits the protection provided for patents which would otherwise be valid and enforceable .... As long as the sale of a product constitutes an arms length transaction between the customer and the infringing company, which is insufficient to create vicarious liability, the patent holder would likely have no redress against the infringer. This result weakens the policy of providing protection to those who devote the time and resources to develop otherwise novel and patentable methods.

McKesson Info. Solutions LLC v. Epic Sys. Corp., 2009 WL 2915778, at *7 (N.D.Ga. Sept. 8, 2009).

In *McKesson* the first step of the multi-step claim to an interactive health-care method requires the patient to enter the system—a step held not directed or controlled by contract or agency, whereby the district court stated that it was required to hold that there was not direct infringement, and thus that McKesson's claim for induced infringement must fail. Had the district court not been constrained by the single-entity rule, the case could easily have been decided on long-standing infringement law.

Direct infringement may be by more than one entity

The court in *BMC Resources* held that the single-entity rule "derives from the statute itself," 498 F.3d at 1380, and the defendants herein press this argument. The statute at § 271(a) states the fundamental requirements of patent infringement, and is sometimes called the "direct infringement" provision:

> § 271(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

The word "whoever" in § 271(a) does not support the single-entity rule. By statutory canon the word "whoever" embraces the singular and plural. The first statute in the United States Code, 1 U.S.C. § 1, states that:

> § 1. In determining the meaning of any Act of Congress, unless the context indicates otherwise—
>
> words importing the singular include and apply to several persons, parties, or things; . . . the words 'person' and 'whoever' include corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals . . . .

This principle was cited in *United States v. Oregon & C.R. Co.*, 164 U.S. 526, 541, 17 S.Ct. 165, 41 L.Ed. 541 (1896) and *Barr v. United States*, 324 U.S. 83, 91, 65 S.Ct. 522, 89 L.Ed. 765 (1945). The usage "whoever" appears not only in § 271 of Title 35, but in §§ 101, 161, and 171 in referring to inventors without distinguishing between singular and plural. *See In re Henriksen*, 55 CCPA 1384, 399 F.2d 253, 258 (1968) (1 U.S.C. § 1 applies to Title 35). Neither the defendants nor any *amicus* has offered any reason to view "whoever" differently in § 271, the patent infringement statute.

Direct infringement requires that every claimed step of a patented method or system is performed in accordance with the limitations stated in the claim. Thus, when more than one entity performs all of

the steps, the claim is directly infringed. Until the rulings in *BMC Resources* and *Muniauction*, it was not disputed that when a claimed method is performed without authorization, the claim is infringed. *See, e.g., Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607, 70 S.Ct. 854, 94 L.Ed. 1097 (1950) ("If accused matter falls clearly within the claim, infringement is made out and that is the end of it."); *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997) (for infringement, every element of the claim must be performed, literally or by an equivalent).

Infringement is not a question of how many people it takes to perform a patented method. The Court observed in *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 342, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961) that "§ 271(a) of the new Patent Code, which defines 'infringement,' left intact the entire body of case law on direct infringement." As applied to the steps of a claimed process, the law before and after the 1952 Act has been stable. *E.g., Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 773 (Fed. Cir.1993) (to infringe a process claim, every claimed step of the process must be performed); *Mowry v. Whitney*, 81 U.S. 620, 652, 14 Wall. 620, 20 L.Ed. 860 (1871):

> The exclusive use of them singly is not secured to him. What is secured is their use when arranged in the process. Unless one of them is employed in making up the process, and as an element of it, the patentee cannot prevent others from using it.

The Court stated in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 522, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972) that "Infringement is defined by

35 U.S.C. § 271 in terms that follow those of § 154." Section 154, "the keystone provision of the patent code," *id.*, codifies every patentee's right to exclude "others" from practicing the patented invention:

> § 154(a)(1) Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention . . . .

The legislative history of the 1952 Patent Act reflects the linkage between § 154 and § 271, the House Committee Report explaining that § 271(a) was "not actually necessary":

> Section 271, paragraph (a), is a declaration of what constitutes infringement. There is no declaration of what constitutes infringement in the present statute. It is not actually necessary because the granting clause [35 U.S.C. § 154] creates certain exclusive rights and infringement would be any violation of those rights.

H.R.Rep. No. 82-1923, at 9 (1952). The same guidance appears in the Senate Committee Report, S.Rep. No. 82-1979, at 8 (1952), 1952 U.S.C.C.A.N. 2394. Giles S. Rich, a principal contributor to the 1952 Patent Act, summarized that "Paragraph (a) defines direct infringement and is present only for the sake of completeness. We got along without it for 162 years and we could again. Its omission would change nothing." G.S. Rich, *Infringement Under Section 271 of the Patent Act of 1952*, 21 Geo. Wash. L.Rev. 521, 537 (1953).

The linkage between § 154 and § 271 finds its mooring in the law as summarized in Professor Robinson's classic *The Law of Useful Inventions* (1890) at Section 897:

> The nature of the act of infringement is indicated by that of the exclusive right which it invades. Hence an infringement may be committed either by making, using, or selling the patented invention. These words, however, are interpreted as comprehending every method by which the invention can be made available for the benefit of the infringer, and any person who participates in any wrongful appropriation of the invention becomes thereby a violator of the rights protected by the patent.

(footnote omitted). This court has lost sight of this statutory foundation, although, as the Court explained in *Bauer & Cie v. O'Donnell*, 229 U.S. 1, 10, 33 S.Ct. 616, 57 L.Ed. 1041 (1913), "Congress did not use technical or occult phrases" in "defining the extent of the rights and privileges secured to a patentee."

The conflicts in precedent should be resolved

Although the word "whoever" in the infringement statute is not limited to a single-entity, this does not resolve the questions of joint or collaborative or interactive infringement that are raised by this court's rulings in *BMC Resources* and *Muniauction*, and relied on by the district courts in *Akamai* and *McKesson*. In *BMC Resources* this court held that the claims could not be directly infringed, on facts whereby the defendant Paymentech, who provided a computerized system for verifying and paying debit transactions, did not direct or control the performance of separate process steps by the debit networks that routed the transactions to the financial institutions who paid the amounts verified. Although Paymentech administered the system and provided transaction information to the debit networks, the panel observed that it was not shown that "Paymentech also provides instructions or directions

regarding the use of those data," and that there was "no evidence even of a contractual relationship between Paymentech and the financial institutions." *BMC Resources*, 498 F.3d at 1381-82. The panel held that because Paymentech did not direct or control the actions of these participating entities, the claims were not directly infringed, and that without direct infringement there could not be induced or contributory infringement by the provider of the claimed method.

In *Muniauction* this court elaborated on *BMC Resources*, and explained that direction or control requires more than controlling access to a system or the issuance of instructions for performance of a claim step. The claimed invention was a method of conducting bond auctions over an electronic network, and the patentee Muniauction had argued that direct infringement was met because the defendant Thomson controlled access to the auction system and instructed bidders on participating in the system. At the trial the district court instructed the jury on the law of direct infringement, as follows:

> Consider whether the parties are acting jointly or together in relation to the electronic auction process. Are they aware of each other's existence and interacting with each other in relation to the electronic auction process? Is there one party teaching, instructing, or facilitating the other party's participation in the electronic auction process? These are the types of questions that you should ask in making your decision on this issue. If you find that there is a sufficient connection between Thomson and the bidders and the issuers that used Thomson's process, then you could find Thomson liable for direct infringement.

Jury instruction, quoted in *Muniauction*, 532 F.3d at 1329. The jury found that the claims were infringed, and the district court denied JMOL. On appeal this court criticized the jury instruction, stating that "none of the questions identified by the jury instruction are relevant to whether Thomson satisfies the 'control or direction' standard of *BMC Resources*." *Id.* at 1330. The court held that although Thomson controlled access to its electronic auction system and instructed bidders on its use, the claimed method could not be directly infringed because Thomson did not direct or control the actions of the bidders.

Applying these principles, the Federal Circuit panel in *Akamai* elaborated that the requirements of direction or control are not satisfied unless any separate entity involved in direct infringement is acting as the agent of, or by contract with, the mastermind of the entire performance. 629 F.3d 1311 (Fed. Cir.2010). This holding has no support in precedent. In *On Demand Machine Corp. v. Ingram Industries, Inc.*, 442 F.3d 1331, 1344-45 (Fed.Cir.2006), this court approved a jury instruction that summarized precedent as it then existed, as follows:

> It is not necessary for the acts that constitute infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement. Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method. Where the infringement is the result of the participation and combined action(s) of one or more persons or entities, they are joint infringers and are jointly liable for the infringement.

To add to the confusion, some cases declined to follow the single-entity rule, or carved new exceptions. For example, in *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1309 (Fed.Cir.2011) a panel of this court held: "That other parties are necessary to complete the environment in which the claimed element functions does not necessarily divide the infringement between the necessary parties." In *Centillion Data Systems, LLC v. Qwest Communications International, Inc.*, 631 F.3d 1279, 1285 (Fed.Cir.2011) a panel of this court held that a claim to a multi-step system could be directly infringed, although the infringer did not perform or direct or control "the back-end processing" of the accused system. In contrast, in *Golden Hour*, 614 F.3d at 1371, a panel of this court held that there could be no direct infringement, although all of the claim steps were performed by two entities that "formed a strategic partnership, enabled their two programs to work together, and collaborated to sell the two programs as a unit."

I take note of the Linn cadre's argument that ingenious patent claim drafting can avoid single-entity problems, and undoubtedly it would help in some situations. I do not discourage ingenuity, but the presence or absence of infringement should not depend on cleverness or luck to satisfy a malleable single-entity rule. The Court in *Dawson Chemical Co. v. Rohm & Haas Co.*, 448 U.S. 176, 188, 100 S. Ct. 2601, 65 L.Ed.2d 696 (1980), discussing the law of contributory infringement, cautioned lest "the technicalities of patent law" enable persons "to profit from another's invention" by performing "acts designed to facilitate infringement by others."

Lessons from copyright law

Useful guidance has evolved in connection with copyright law, for copyright and patent law are in "close[] analogy." *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 439, 104 S.Ct. 774, 78 L.Ed.2d 574 (1984). The Court stated in *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930, 125 S.Ct. 2764, 162 L.Ed.2d 781 (2005) that one "infringes vicariously by profiting from direct infringement while declining to exercise a right to stop or limit it," citing *Shapiro, Bernstein & Co. v. H.L. Green Co.*, 316 F.2d 304, 307 (2d Cir.1963).

Defendants Limelight and Epic Systems state that vicarious infringement is inapposite in the cases before us, for no one entity performs all steps of the claimed invention. That theory is incorrect. Both of the defendants agree that agency is a form of attribution, which includes *respondeat superior*. Restatement (Third) of Agency § 7.07(1) (2006). However, as explained in *A & M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir.2001), "Vicarious copyright liability is an 'outgrowth' of respondeat superior," quoting *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 262 (9th Cir.1996). Given "the historic kinship between patent law and copyright law," *Sony*, 464 U.S. at 439, 104 S.Ct. 774, there is no reason why agency theory attributes the performance of claim steps but the principle of vicarious infringement does not.

The court should simply acknowledge that a broad, all-purpose single-entity requirement is flawed, and restore infringement to its status as occurring when all of the claimed steps are performed, whether by a single entity or more than one entity, whether by

direction or control, or jointly, or in collaboration or interaction.

III

THE INDUCEMENT-ONLY RULE

The majority opinion states that "Direct infringement has not been extended to cases in which multiple independent parties perform the steps of the method claim." [App. 5a]. That is of course incorrect. Despite this challenged statement, the court's opinion never reaches the issue, although it was extensively briefed by the parties and the many *amici curiae*. Instead, the majority holds that "[i]t is not necessary for us to resolve that issue today" of "the question whether direct infringement can be found when no single entity performs all of the claimed steps of the patent." [App. 3a]. The authority cited for "reject[ing] claims of liability for direct infringement of method claims in cases in which several parties have collectively committed the acts necessary to constitute direct infringement" is *BMC Resources* and *Muniauction*. [App. 6a]. These are the cases that led to convening this *en banc* court. Thus the majority discards decades of precedent, refuses our *en banc* responsibility, and states that "we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement." *Id.* The apparent justification is the new inducement-only rule of liability.

The court holds that only inducement to infringe is actionable when the claim is practiced by two or more entities, and that there can be no liability for direct infringement. The court holds that "the acts necessary to constitute direct infringement" are different from "the acts specified in the statute

[§ 271(a)]," [App. 6a, 10a], and other new theories. The majority relies on the criminal law principles codified at 18 U.S.C. § 2. However, "[t]he analogy between accomplice liability and contributory infringement fails given careful consideration of the reasons behind imposing criminal sanctions on indirect actors." M. Bartholomew, *Cops, Robbers, and Search Engines: The Questionable Role of Criminal Law in Contributory Infringement Doctrine*, 2009 BYU L. Rev. 783, 786. Bartholomew points out at page 807 the differences between accomplice liability and contributory infringement:

> As it stands currently, contributory infringement law does not require the strong showings of intent required for accomplice liability in criminal law .... [W]hile both contributory liability doctrines [*e.g.*, induced and contributory infringement] allow the defendant's mental state to be inferred through circumstantial evidence, infringement law takes a comparatively generous approach in determining what evidence is probative of knowledge of the underlying illegal act. Most importantly, accomplice liability places little stock in the *actus reus* requirement while contributory infringement decisions often hinge on whether the defendant's actions were 'material' enough to justify liability.

The LaFave treatise reiterates that "[c]onsiderable confusion exists as to what the accomplice's mental state must be in order to hold him accountable for an offense committed by another." *Criminal Law* § 13.2, at 712 (5th ed.2010).[2]

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[2] The majority also defends its adventure into uncharted infringement law, by reciting other assorted special statutes, such as the Hatch-Waxman Act's artificial infringement provision for challenge to a patent when there is no case or contro-

The majority opinion states that "the problem presented by the cases before us [is] whether liability should extend to a party who induces the commission of infringing conduct." [App. 7a]. That is not the problem presented. Liability for inducement is established by statute. The problem before the court is not whether an inducer, properly defined, is liable for infringement; the problem is whether a method patent is infringed when more than one entity performs the claimed steps of the method. Until the *BMC* line of cases held that the answer is "no" unless there is an agency or contractual relationship among all of the performing entities, this question was resolved by application of the existing laws of infringement, whether direct, induced, or contributory infringement.

In accordance with § 271(c) the entity that provides the system that is used to perform the claimed method, or steps thereof, for which there is no substantial noninfringing use, is liable for contributory infringement—it is noteworthy that the court's opinion does not distinguish between induced and contributory infringement, misciting precedent accordingly. The rules of contributory infringement, in which the court seeks support for its elimination of liability for direct infringement, were established to provide liability in situations in which the contributory infringer knows that "the combination for which his component was especially designed was both patented and infringing," as the Court explained in *Aro Manufacturing*

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versy because there is no infringement, in order to enable generic drug producers to test the patent while prohibited from making or selling the patented product. § 271(e)(2). This special expedient does not justify this court's creation of a new law of infringement.

Co. v. Convertible Top Replacement Co., 377 U.S. 476, 488, 84 S.Ct. 1526, 12 L.Ed.2d 457 (1964). In *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565 (Fed.Cir.1983) this court ruled that there could be contributory infringement by the provider of the printing plate, when the final step of coating of the plate is performed by the customer.

As summarized in *Aro*, 377 U.S. at 512, 84 S.Ct. 1526, contributory infringement is "designed for cases where enforcement against direct infringers is impracticable." (quotation omitted). *See also Dawson*, 448 U.S. at 188, 100 S.Ct. 2601 ("This protection [of contributory infringement] is of particular importance in situations, like the oil lamp case itself [*Wallace v. Holmes*, 29 F. Cas. 74 (No. 17,100) (C.C. D.Conn.1871)], where enforcement against direct infringers would be difficult, and where the technicalities of patent law make it relatively easy to profit from another's invention without risking a charge of direct infringement."). The court's opinion incorrectly treats these cases as "inducement" cases. Inducement is a different concept, and the new breadth with which the court infuses the concept is an unwarranted and unsupported enlargement of the law.

Liability for inducement requires direct infringement

Precedent establishes the circumstances in which the purveyor of less than the entire claimed invention can be liable for infringement. For all forms of indirect infringement liability, it is necessary to establish that the claimed invention is directly infringed. My colleagues hedge, and while acknowledging that "there can be no indirect infringement without direct infringement," [App. 8a], the court holds that there need not be direct infringers. I need

not belabor the quandary of how there can be direct infringement but no direct infringers.

Judge Rich, in *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469 (Fed.Cir.1990), explained that under common law "[contributory infringement] liability was under a theory of joint tortfeasence, wherein one who intentionally caused, or aided and abetted, the commission of a tort by another was jointly and severally liable with the primary tortfeasor." The requirement of a "primary tortfeasor" applies to inducement, as has long been understood: "Liability under 35 U.S.C. 271(b) requires the existence of direct infringement by another party which is actionable under 35 U.S.C. 271(a)." C. Miller, *Some Views on the Law of Patent Infringement by Inducement*, 53 J. Pat. Off. Soc'y 86, 102 (1971). I take note of the majority's statement that an inducer is not liable for inducing "others to engage in conduct that is not within the claims of the patent in suit." [App. 15a-16a] n. 4 (citing *Shuttlesworth v. City of Birmingham*, 373 U.S. 262, 83 S.Ct. 1130, 10 L.Ed.2d 335 (1963)). That statement is incomplete, for when the direct infringer is not liable, for whatever reason, the performance of claim steps is not prohibited by law. When the performance of the claim steps is not unlawful, the inducer cannot be liable for inducing infringement, on any theory of tort or criminal or patent law. *See Shuttlesworth*, 373 U.S. at 265, 83 S.Ct. 1130 ("It is generally recognized that there can be no conviction for aiding and abetting someone to do an innocent act.").

Precedent routinely reflects that liability for inducement depends on liability for direct infringement. In *Met-Coil Systems Corp. v. Korners Unlimited, Inc.*, 803 F.2d 684, 687 (Fed.Cir.1986) the court

held that there was no liability for induced infringement by sale of equipment for use in the patentee's machine, because the "customers enjoyed an implied license to practice the inventions claimed." That is, although the customers "practice[d]" the claimed invention, [App. 9a], they did not directly infringe, so there could be no inducement of infringement. *Cf. Giese v. Pierce Chem. Co.*, 29 F.Supp.2d 33, 36 (D. Mass.1998) ("If the end users are not infringers due to the protection of the experimental use doctrine, then the defendants Vector and Pierce cannot be liable for contributory infringement or inducement.").

In *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed.Cir.2005) the court held that there was no liability for inducement by sale of a system that had a component located in Canada, because the customers did not perform all the steps of the claimed method in the United States. That is, although "all the steps of a claimed method [were] performed," [App. 3a], the customers did not directly infringe, so there could be no inducement. *Cf. Everpure, Inc. v. Cuno, Inc.*, 875 F.2d 300, 302 (Fed.Cir.1989) ("[T]here can be neither contributory nor induced infringement when, because of the permissible repair doctrine, there has been no direct infringement.").

In *National Presto Industries, Inc. v. West Bend Co.*, 76 F.3d 1185 (Fed.Cir.1996) the court held that there was no liability for inducing infringement before the patent issued, because there is no direct infringement before issuance. The court stated that "if the thing that was abetted was not illegal at the time of abetment, but depended on some future event that might not occur (such as issuance of the patent) liability can not be retroactively imposed." *Id.* at

1196; *cf. Joy Techs.*, 6 F.3d at 775 ("If the plant sold by Flakt cannot be used by the purchaser to infringe directly because it will not be operational within the term of the patent, Flakt cannot be guilty on a theory of contributory infringement with respect to that plate.").

Discarding precedent, the majority holds that there is liability for inducement when the inducer breaches the "duty not to cause the acts that constitute infringement even if the parties who cause the direct injury are not liable." [App. 19a]. Duty, breach, and causation apply in the tort of negligence, not patent infringement. Prosser & Keeton explain that "in negligence cases, the duty is always the same—to conform to the legal standard of reasonable conduct in the light of the apparent risk." *Prosser & Keeton on the Law of Torts*, § 53, at 356 (5th ed.1984). In addition to its incorrect treatment of the foundational requirement of direct infringement, the majority creates a new, ill defined, and open-ended theory of liability for patent infringement, simply by "caus[ing], urg[ing], encourag[ing], or aid[ing]" someone to perform separate steps of a patented method. [App. 8a].

To support its unprecedented ruling of induced infringement without direct infringers, the court also misconstrues the 1952 Patent Act and its history. In 1948 then attorney Giles S. Rich testified that "obvious infringement" should be subject to remedy, and that judicial decisions "appear to make it impossible to enforce [combination] patents in the usual case." *Contributory Infringement in Patents: Hearings Before the Subcomm. on Patents, Trade-Marks, and Copyrights of the House Comm. on the Judiciary*, 80th Cong. 5 (1948) (statement of G.S. Rich on behalf of the New York Patent Law Association) ("1948

Hearings"). Mr. Rich gave an example of two equal participants in a radio system, sending and receiving, and described: "there is no direct infringer of the patent but only two contributory infringers." *Id.* The court today places great weight on this statement. However, a year later Mr. Rich testified again, stating that: "The law always has been that, to hold anyone for contributory infringement, there must have been somewhere a direct infringement which was contributed to." *Contributory Infringement: Hearings on H.R. 3866 Before Subcomm. No. 4 of the House Comm. on the Judiciary*, 81st Cong. 67 (1949) (statement of G.S. Rich) ("1949 Hearings"); *id.* at 5 ("Somewhere along the line there must be a direct infringement . . . .").

In the 1951 hearings Mr. Rich again testified, stating that "wherever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed." *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the House Comm. on the Judiciary*, 82nd Cong. 151 (1951) (statement of G.S. Rich). Mr. Rich never proposed the conditions of induced infringement that the court now propounds. Mr. Rich summarized, when the statute was enacted, that "[a]ctive inducement implies that there is not a *direct* infringement by the one doing the inducing and that the direct infringement was by another." G.S. Rich, *Infringement Under Section 271 of the Patent Act of 1952*, *supra* at 537.

The court's opinion quotes other testimony, none of which proposes or suggests the court's creative ruling. At the 1948 hearing Representative Kenneth Keating asked "[t]he law of torts is the basic part of

patent law, is it not?," and Mr. Rich answered that: "Infringement is considered to be a tort and contributory infringement is a specific application to patent law of the law of joint tort feasor where two people somehow together create an infringement which neither one of them individually or independently commits." *1948 Hearings*, at 12. At the 1949 hearing Mr. Rich again explained:

> When two people combine and infringe a patent in some way or other, they are joint tort feasors, and it so happens that patents are often infringed by people acting in concert, either specifically or by implication, where neither one of them is a direct infringer. The only way you can protect your right is to proceed against someone who is not a direct infringer. That person who does something less than the direct infringement is called a contributory infringer.

1949 Hearings, at 3. The statements and testimony for the 1948 and 1949 hearings, quoted out of context in the court's opinion, do not state, or hint, that the proposed legislation would accommodate indirect infringement without direct infringers. Nowhere in the entire legislative effort did any supporter or sponsor of the codification of indirect infringement in § 271(b) and (c) refer to "practicing" the claimed invention or "the acts necessary to constitute direct infringement" as liberated from the requirement of proving direct infringement, as the majority does today. [App. 20a-23a, 6a].

What about remedies?

According to the court's new ruling, it appears that the patentee cannot sue the direct infringers of the patent, when more than one entity participates in the infringement. The only remedial path is by way

of "inducement." We are not told how compensation is measured. The only thing that is clear, is that remedy is subject to new uncertainties. Since the direct infringers cannot be liable for infringement, they do not appear to be subject to the court's jurisdiction. Perhaps the inducer can be enjoined—but will that affect the direct infringers? Since the inducer is liable when he breaches the "duty" not to induce, is the inducer subject to multiplication of damages? This return to the "duty to exercise due care to determine whether or not he is infringing" of *Underwater Devices Inc. v. Morrison-Knudsen Co., Inc.*, 717 F.2d 1380, 1389 (Fed.Cir.1983) raises tension with the ruling of the en banc court in *In re Seagate Technology LLC*, 497 F.3d 1360 (Fed.Cir. 2007) that overruled the standard of *Underwater Devices*.

Nor has the court ascertained the views of the communities affected by this change in law. The many *amici curiae* explained how the single-entity rule affects their activities; none has had an opportunity to consider the effect of the inducement-only change now adopted *en banc*.

It is not necessary to change the law in order to design a fair infringement law. The court misconstrues "strict liability" as requiring that every participant in an interactive or collaborative method is fully responsible for the entire harm caused by the infringement. *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. ——, 131 S.Ct. 2060, 2065 n. 2, 179 L.Ed.2d 1167 (2011), does not so hold. The tort principle of "strict liability" applies when injury results from inherently hazardous or dangerous activity, not from patent infringement. Black's Law Dictionary 998 (9th ed.2009) sums up the law:

> Liability that does not depend on actual negligence or intent to harm, but that is based on the breach of an absolute duty to make something safe. Strict liability most often applies either to ultra-hazardous activities or in products-liability cases.

Although the term "strict liability" has crept into patentese, it does not have the consequences given by my colleagues. Proper analysis is illustrated by Blair & Cotter, who point out the inapplicability to patent infringement. *Strict Liability and its Alternatives in Patent Law*, 17 Berkeley Tech. L.J. 799 (2002). For example, they explain at page 808 that under a true strict liability standard, damages would be recoverable even before the accused infringer has "knowledge or notice that the conduct infringes." *See* 35 U.S.C. § 287 (notice requirements).

As stated in *Carbice Corp. of America v. American Patents Development Corp.*, 283 U.S. 27, 33, 51 S.Ct. 334, 75 L.Ed. 819 (1931), "Infringement, whether direct or contributory, is essentially a tort, and implies invasion of some right of the patentee." When the patent is infringed through the cooperation or interaction of more than one entity, assessment of remedy is appropriately allocated in accordance with traditional tort principles. The Court stated in *Burlington Northern & Santa Fe Railway Co. v. United States*, 556 U.S. 599, 614, 129 S.Ct. 1870, 173 L.Ed.2d 812 (2009) that "apportionment is proper when there is a reasonable basis for determining the contribution of each cause to a single harm" (quotation omitted). These fundamentals apply here, and resolve all of the issues for which both factions of the court disrupt law and precedent.

Remedy for infringement may be apportioned on such traditional tort factors as the relative contri-

bution to the injury to the patentee, the economic benefit received by the tortfeasor, and the knowledge and culpability of the actor. Applicable considerations are summarized in the Restatement of the Law Torts: Apportionment of Liability (2000), as follows:

> § 8. Factors for Assigning Shares of Responsibility
>
> Factors for assigning percentages of responsibility to each person whose legal responsibility has been established include
>
> (a) the nature of the person's risk-creating conduct, including any awareness or indifference with respect to the risks created by the conduct and any intent with respect to the harm created by the conduct; and
>
> (b) the strength of the causal connection between the person's risk-creating conduct and the harm.

Comment c to § 8 of the Restatement further elaborates on the factors for assigning shares of responsibility:

> c. *Factors in assigning shares of responsibility* . . . . The nature of each person's risk-creating conduct includes such things as how unreasonable the conduct was under the circumstances, the extent to which the conduct failed to meet the applicable legal standard, the circumstances surrounding the conduct, each person's abilities and disabilities, and each person's awareness, intent, or indifference with respect to risks. The comparative strength of the causal connection between the conduct and the harm depends on how attenuated the causal connection is, the timing of each person's conduct in causing the harm, and a comparison of the risks created by the conduct and the actual harm suffered by the plaintiff.

> One or more of these factors may be relevant for assigning percentages of responsibility, even though they may not be a necessary element proving a particular claim or defense. However, these factors are irrelevant even to apportionment if there is no causal connection between the referenced conduct and the plaintiff's injuries. See Comment *b*. It should be noted that the mental-state factors in this Section may be considered for apportioning responsibility even if they are not themselves causally connected to the plaintiff's injury, as long as the risk-creating conduct to which they refer is causally connected to the injury.

Apportionment of remedy for shared infringement permits consideration of the actual situation, and is particularly suitable in cases of divided infringement. *See Birdsell v. Shaliol*, 112 U.S. 485, 488, 5 S.Ct. 244, 28 L.Ed. 768 (1884) ("In the case of infringement, the liability of infringers arises out of their own wrongful invasion of his rights."); *Aro*, 377 U.S. at 500, 84 S.Ct. 1526 ("[A] contributory infringer is a species of joint-tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff.").

Whether the infringement is direct or indirect, the allocation of remedy is a case-specific determination. In *Grokster*, 545 U.S. at 930 n. 9, 125 S.Ct. 2764, the Court observed that "the lines between direct infringement, contributory infringement and vicarious liability are not clearly drawn," quoting *Sony*, 464 U.S. at 435 n. 17, 104 S.Ct. 774. *Grokster* accommodates the realities of today's technology without departing from the principles of precedent, by identifying when "it is just to hold one individual accountable for the actions of another." *Sony*, 464 U.S. at

435, 104 S.Ct. 774. When the several steps of a process claim are performed by more than one entity, whether the entities operate under common direction or control, or jointly or independently or interactively, remedy for infringement is appropriately allocated based on established criteria of culpability, benefit, and the like.

The law has always permitted allocation of remedy when multiple parties are responsible for civil wrongs. The example in Judge Linn's dissent at [App. 20a-23a], that the person who provides the nuts, bolts, or gears that hold together an infringing machine would be responsible for full damages for infringement by the machine, does not pass the chuckle test. I must also remark that according to the dissenters' thesis the manufacturer of the infringing machine would not be liable at all unless the purveyor of the nuts, bolts, or gears is in an agency relationship with a mastermind.

Although *Grokster* is mentioned in the majority's opinion, it is undercut by the majority's insistence that there is no need to establish direct infringement "[b]ecause the reasoning of our decision today is not predicated on the doctrine of direct infringement." [App. 6a]. However, in *Grokster* it was not disputed that the users of the defendants' systems were liable for direct infringement, and the Court held that the defendants could be liable for inducing the infringement.

When there is combined participation in direct infringement, there is a fair concern for imposing damages on minor participants. Law and precedent do not so require, and experience makes clear that the target is the deep-pocket commercial participant, not the occasional customer. For example, in the

McKesson case neither the patient who accesses his medical records, nor the healthcare provider who assembles and provides the records, was sued. Only the licensor of the system software was sued, for the injury to the patentee was in the commercial profit from the license of the software. Neither the single-entity rule nor the inducement-only rule is needed to protect the innocent patient who turns on his computer to access the system containing his medical records.

Potential for abuse

The majority states that "nothing in the text of either subsection [§ 271(a) or (b)] suggests that the act of 'infringement' required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a)," [App. 20a], and holds that liability for inducement arises simply on "advis[ing]." [App. 7a]. Now that this untenable theory is the law of this *en banc* court, potential for abuse looms large, for the majority does not require proof of direct infringement, but holds that the entity that advises or enables or recommends the divided infringement is fully responsible for the consequences of the direct infringement.

Many of the *amici curiae* pointed to ongoing abuses of the system of patents, and the ensuing disincentive to innovative commerce. The majority ignores these cautions, as it creates new potential problems. And while many innovative industries explained how they may be affected by possible rulings on divided infringement, not one of the many *amici* suspected the inducement-only theory that is here adopted.

IV

THE TWO CASES ON APPEAL

The majority remands for application of the inducement-only rule to the now-vacated panel decisions of *Akamai* and *McKesson*. In its remand instructions the majority declines guidance on direct infringement, instead stating at [App. 30a]: "While we do not hold that Akamai is entitled to prevail on its theory of direct infringement, the evidence could support a judgment in its favor on a theory of induced infringement." The panels had held that without direct infringement there cannot be induced infringement. That simple rule was confirmed over and over at the hearings leading to the 1952 Patent Act, for the legislative history plainly states the understanding that there must be direct infringement before there can be liability for inducement to infringe.

Brief review of the facts of the cases on appeal demonstrates that these cases are readily decided under the present law, with no need for creative revision of history.

Akamai Technologies, Inc. v. Limelight Networks, Inc., Appeal No. 2009-1372, -1380, -1416, -1417

The district court in *Akamai* held a full trial, on jury instructions that included the single-entity rule as established in *BMC Resources*. The jury found infringement, the district court granted JMOL after *Muniauction* was decided, and a panel of this court affirmed that there could be no infringement, based on failure to meet the single-entity rule. The court today holds that there can be liability, but only for inducement.

The patent at issue, assigned to the Massachusetts Institute of Technology and licensed to Akamai, is entitled "Global Hosting System," a system for providing content delivery of website information. In brief, the text of a web page is stored on and served from the content provider's server, and other content such as images, video, and sound, called embedded objects, are stored on the hosting servers of a content delivery network. The defendant Limelight Networks provides such a content delivery system. Claims 19 and 34 of U.S. Patent No. 6,108,703 are representative of the claims asserted at trial, with Limelight providing the service but with the customer conducting the step of tagging of embedded objects (the boldface step):

19. A content delivery service, comprising:

replicating a set of page objects across a wide area network of content servers managed by a domain other than a content provider domain;

for a given page normally served from the content provider domain, **tagging the embedded objects** of the page so that requests for the page objects resolve to the domain instead of the content provider domain;

responsive to a request for the given page received at the content provider domain, serving the given page from the content provider domain; and

serving at least one embedded object of the given page from a given content server in the domain instead of from the content provider domain.

34. A content delivery method, comprising:

distributing a set of page objects across a network of content servers managed by a domain

other than a content provider domain, wherein the network of content servers are organized into a set of regions;

for a given page normally served from the content provider domain, **tagging at least some of the embedded objects** of the page so that requests for the objects resolve to the domain instead of the content provider domain;

in response to a client request for an embedded object of the page:

resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and

returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

The single-entity issue turned on the tagging step performed by the customer. Akamai pursued the charge of direct infringement, recognizing precedent and thus arguing that the single-entity rule is satisfied because the customer tags the embedded objects in accordance with instructions provided by Limelight, within the context of a contractual relationship. The issue of "direction or control" was extensively explored at trial, and the jury was instructed in accordance with *BMC Resources*:

If Limelight did not direct and control this action, then this substitution cannot be attributed to Limelight. And Limelight cannot, therefore, infringe . . . .

Again, the first [question] again is whether this method of getting to the Defendant content delivery network infringes any claim, and the second

> question, again, is whether the content provider acted under the direction and control of Limelight. And again, if Limelight directed and controlled this action, it was effectively the action of Limelight, and then it may be found responsible. But if Limelight did not direct and control, both are necessary, the modification at the content provider, then it cannot be deemed to infringe.
>
> . . .
>
> So, you should review the evidence, decide how the Limelight systems work, how does the interaction with the content provider work, and, specifically, does Limelight direct and control the modifications or does the content provider carry out these tasks entirely independently. Then compare each of the mechanisms with what is claimed in the certain claims and, specifically, does either of the Defendant's content delivery methods practice each element of whichever claim you are considering.

Trial Tr. 20:20 to 22:4 (Feb. 28, 2008), J.A. 818-19. The district court further instructed the jury, after discussion with counsel, that "[i]t is either direct or control, control or direct; it doesn't have to be both." *Id.* at 53:3-5, J.A. 826.

The jury found that Limelight infringed the claims. Limelight moved for judgment as a matter of law, and the district court denied the motion, explaining that "unlike in *BMC Resources*, here there was evidence that not only was there a contractual relationship between Limelight and its customers, but that it provided those customers with instructions explaining how to utilize its content delivery service." *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 614 F.Supp.2d 90, 119 (D.Mass.2009).

Two weeks later this court decided *Muniauction*, and the district court received Limelight's request for reconsideration on the ground that *Muniauction* established the additional requirement that direct infringement "requires a showing that the accused direct infringer is vicariously liable for the acts committed by any others required to complete performance of the claimed method," a more rigorous standard than had been presented to the jury based on *BMC Resources*. Dkt. No. 377, at 2 (July 25, 2008). The district court found that there was "no material difference between Limelight's interaction with its customers and that of Thompson [sic] in *Muniauction*." *Akamai*, 614 F.Supp.2d at 122. The district court held that on the law established in *Muniauction*, the jury verdict of infringement could not be sustained.

The majority now remands for application of its inducement-only rule. However, on the jury instruction that was given, the majority's criteria for infringement are met. And this endless litigation is further prolonged, for the majority gives no appellate review to the other issues on appeal, including claim construction, the measure of damages, and other decisions of the district court presented for appellate review. They are ignored.

McKesson Technologies Inc. v. Epic Systems Corp., Appeal No. 2010-1291

McKesson's action was for inducement of infringement by Epic Systems, who licenses a software system that is designed for interactive use by healthcare providers and their patients. The patent, entitled "Electronic Provider—Patient Interface System," is for "a communication system for providing automated, electronic communications between at least

one health-care provider and a plurality of users of the health-care provider." U.S. Patent No. 6,757,898, abstract. The patent states that "once the patient has logged into his/her own Web page," the patient can access a variety of healthcare records and services including "appointment requests and updates, prescription refills, online triage, health search information and the like." *Id.* at col.4 ll.52-56. Epic has a system called MyChart, and licenses the system software to health-care providers.

The district court applied *Muniauction*, and granted summary judgment that the patent cannot be directly infringed, and thus that there cannot be inducement to infringe. The district court held that because the patient performs some steps of the claim, direct infringement is precluded because neither the healthcare provider nor the provider of the overall system directs or controls the actions of the patient. Application of the majority's theory of inducement could help to clarify today's rulings, with their uncertainties and contradictions.

As claimed in the '898 patent, the patient initiates a communication as the first step of the method, which includes interactive steps:

> 1. A method of automatically and electronically communicating between at least one health-care provider and a plurality of users serviced by the health-care provider, said method comprising the steps of:
>
> initiating a communication by one of the plurality of users to the provider for information, wherein the provider has established a preexisting medical record for each user;
>
> enabling communication by transporting the communication through a provider/patient inter-

face over an electronic communication network to a Web site which is unique to the provider, whereupon the communication is automatically reformatted and processed or stored on a central server, said Web site supported by or in communication with the central server through a provider-patient interface service center;

electronically comparing content of the communication with mapped content, which has been previously provided by the provider to the central server, to formulate a response as a static or dynamic object, or a combined static and dynamic object; and

returning the response to the communication automatically to the user's computer, whereupon the response is read by the user or stored on the user's computers

said provider/patient interface providing a fully automated mechanism for generating a personalized page or area within the provider's Web site for each user serviced by the provider; and

said patient-provider interface service center for dynamically assembling and delivering custom content to said user.

McKesson charged Epic with inducing infringement of the '898 patent. Epic argued in defense that in accordance with *BMC Resources* the claims cannot be directly infringed because no single entity performs or directs or controls every step of the claimed method. McKesson responded that the requirements of *BMC Resources* are met, in that the healthcare provider controls the patient's access to the MyChart system, for the healthcare provider requires the user to accept a "cookie" in order to use the system and the

system requires login information to restrict the user's access to information.

The district court at first denied summary judgment, finding genuine issues of material fact as to the question of direction or control. This court then decided *Muniauction*, and the district court concluded that summary judgment of noninfringement was "compel[ed]." *McKesson*, 2009 WL 2915778, at *5. The district court drew analogy to the facts and result in Muniauction to conclude that there could not be direct infringement as a matter of law. The majority is silent on the provisions embodied in *Muniauction*, although the district court held them to be controlling.

CONCLUSION

The issues that were presented for en banc review can be simply resolved on the present law. The court should acknowledge that an all-purpose single-entity requirement is flawed, and restore direct infringement to its status as occurring when all of the claimed steps are conducted, whether by a single entity or in interaction or collaboration. Remedy is then allocated as appropriate to the particular case, whether for direct or induced or contributory infringement, in accordance with statute and the experience of precedent.

The court has fractured into two flawed positions, each a departure from established precedent, each poorly suited to the issues and technologies that dominate today's commerce. Today's new rule of inducement-only liability serves no public interest, no innovation need. The consequences for the technology communities are uncertainty, disincentive, and new potential for abuse.

LINN, Circuit Judge, dissenting, with whom Circuit Judges DYK, PROST, and O'MALLEY join.

I. INTRODUCTION

In its opinion today, this court assumes the mantle of policy maker. It has decided that the plain text of § 271(a) and (b) fails to accord patentees certain extended rights that a majority of this court's judges would prefer that the statute covered. To correct this situation, the majority effectively rewrites these sections, telling us that the term "infringement" was not, as was previously thought, defined by Congress in § 271(a), but instead can mean different things in different contexts.

The majority's approach is contrary to both the Patent Act and to the Supreme Court's longstanding precedent that "if there is no direct infringement of a patent there can be no contributory infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972) (quoting *Mercoid Corp. v. Mid-Continent Co.* (*Mercoid I*), 320 U.S. 661, 677, 64 S.Ct. 268, 88 L.Ed. 376 (1944) (Frankfurter, J., dissenting on other grounds)); *see also Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed.Cir.1993) ("Liability for either active inducement of infringement or for contributory infringement is dependent upon the existence of direct infringement."); *C.R. Bard v. Advanced Cardiovascular Sys., Inc.*, 911 F.2d 670, 673 (Fed.Cir.1990) (same). In 1952, Congress removed joint-actor patent infringement liability from the discretion of the courts, defining "infringement" in § 271(a) and expressly defining the *only* situations in which a party could be liable for something less than an infringement in § 271(b)

and (c)—clearing away the morass of multi-actor infringement theories that were the unpredictable creature of common law. Since that time, Congress has on three occasions made policy choices to treat certain special circumstances as tantamount to "infringement." *See* 35 U.S.C. § 271(e)(2), (f), and (g). In doing so, Congress did not give the courts blanket authority to take it upon themselves to make further policy choices or define "infringement."

The majority opinion is rooted in its conception of what Congress ought to have done rather than what it did. It is also an abdication of this court's obligation to interpret Congressional policy rather than alter it. When this court convenes en banc, it frees itself of the obligation to follow its own prior precedential decisions. But it is beyond our power to rewrite Congress's laws. Similarly, we are obliged to follow the pronouncements of the Supreme Court concerning the proper interpretation of those acts. *Rivers v. Roadway Express, Inc.*, 511 U.S. 298, 312-313, 114 S.Ct. 1510, 128 L.Ed.2d 274 (1994); *Rodriguez de Quijas v. Shearson/Am. Express, Inc.*, 490 U.S. 477, 484, 109 S.Ct. 1917, 104 L.Ed.2d 526 (1989).

On this unsound foundation, the majority holds that in the present appeals there has been predicate "infringement" even though § 271(a)'s requirements are not satisfied. On that basis, the majority vacates the contrary judgments of the district courts and remands for further proceedings concerning liability under § 271(b). In my view, the plain language of the statute and the unambiguous holdings of the Supreme Court militate for adoption en banc of the prior decisions of the court in *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378-79 (Fed.

Cir.2007) and *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed.Cir.2008), which hold that liability under § 271(b) requires the existence of an act of direct infringement under § 271(a), meaning that all steps of a claimed method be practiced, alone or vicariously, by a single entity or joint enterprise. For these reasons, I respectfully dissent.

II. Discussion

A. Direct Infringement Liability is a *Sine Qua Non* of Indirect Infringement Liability

The majority essentially skirts the en banc question in the *Akamai* case by holding that "[b]ecause the reasoning of our decision today is not predicated on the doctrine of direct infringement, we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a)." [App. 6a]. With all due respect to my colleagues in the majority, the question of "joint infringement" liability under § 271(a) is essential to the resolution of these appeals. Divorcing liability under § 271(a) from liability under § 271(b) is unsupported by the statute, subverts the statutory scheme, and ignores binding Supreme Court precedent.

1. The Statutory Scheme

Patent infringement is not a creation of common law. It is a statutorily-defined tort. *See 3D Sys., Inc. v. Aarotech Labs., Inc.*, 160 F.3d 1373, 1379 (Fed.Cir. 1998) ("[T]he tort of infringement . . . exists solely by virtue of federal statute."); *N. Am. Philips Corp. v. Am. Vending Sales, Inc.*, 35 F.3d 1576, 1579 (Fed.Cir. 1994). "Defining the contours of the tort of infringement . . . [thus] entails the construction of the federal statute." *3D Sys.*, 160 F.3d at 1379.

35 U.S.C. § 271(a) provides that:

> Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

Section 271(a) defines infringement. H.R.Rep. No. 82-1923, at 9 (1952) ("Section 271, paragraph (a), is a *declaration of what constitutes infringement*.") (emphasis added). 35 U.S.C. § 271(b) and (c), in turn, codify the doctrines of inducement and contributory infringement respectively:

> (b) Whoever actively induces infringement of a patent shall be liable as an infringer.
>
> (c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

Congress carefully crafted subsections (b) and (c) to expressly define the *only* ways in which individuals not completing an infringing act under § 271(a) could nevertheless be liable, rejecting myriad other possibilities that existed in the common law at the time, such as, for example, *Peerless Equipment Co. v. W.H. Miner, Inc.*, 93 F.2d 98, 105 (7th Cir.1938) and *Solva Waterproof Glue Co. v. Perkins Glue Co.*, 251 F. 64, 73-74 (7th Cir.1918). In creating § 271(b) and (c),

Congress intended to codify "contributory" infringement liability in a limited manner:

> The doctrine of contributory infringement has been a part of our law for about 80 years . . . . *Considerable doubt and confusion as to the scope of contributory infringement has resulted from a number of decisions of the courts in recent years. The purpose of [section 271] is to codify in statutory form principles of contributory infringement and at the same time eliminate this doubt and confusion.* Paragraph (b) recites in broad terms that one who aids and abets an infringement is likewise an infringer. The principle of contributory infringement is set forth in . . . paragraph [(c)] which is concerned with the usual situation in which contributory infringement arises. [Paragraph (c)] is much more restricted than many proponents of contributory infringement believe should be the case.

H.R.Rep. No. 82-1923, at 9 (1952) (emphasis added). While subsections (b) and (c) are not mutually exclusive, they each address a particular type of multi-party conduct.

Reading subsection (b) in light of subsection (a) is a straightforward exercise. Section 271(a) defines infringement, and, in turn, § 271(b) and (c) establish indirect infringement liability for one who "actively induces *infringement*" or sells a component part "especially adapted for use in an *infringement*" (emphases added). A person who practices the entire invention is an infringer, liable under subsection (a); a person who actively induces such practice is an inducer, liable under subsection (b) ("positive articulation"). The negative inference is equally straightforward: A person who does not practice the entire invention is not liable under subsection (a); a person who actively

induces such partial practice is not liable under subsection (b) ("negative articulation"). Such has been the consistent reasoning of this court (and of the Supreme Court, *see infra*) for years. *Joy Techs.*, 6 F.3d at 774 (citing Supreme Court and Federal Circuit precedent).

The majority rejects this reasoning. It is satisfied with the positive articulation but not the negative articulation because the latter means that some claims (e.g., the claims on appeal) are unenforceable in the absence of a direct infringer. The majority attempts to avoid the result of some patentees having technically valid but valueless claims by essentially rewriting subsection (b) so that it reads: "Whoever actively induces infringement of [*or induces two or more separate parties to take actions that, had they been performed by one person, would infringe*] a patent shall be liable as an infringer."

2. It is Impermissible to Redefine "Infringement" for the Purposes of Establishing Liability Under § 271(b)

To support its tenuous position, the majority impermissibly bends the statute to define direct infringement differently for the purposes of establishing liability under § 271(a) and (b). The majority asserts that "[s]ection 271(a) *does not define* the term 'infringement.' Instead, it simply sets forth a type of conduct that qualifies as infringing." [App. 20a]. Contrary to the majority's statement, however, both the House and Senate reports from the statute's adoption confirm that § 271(a) is, in fact, "*a declaration of what constitutes infringement in the present statute.*" S.Rep. No. 82-1979, at 8 (1952), 1952 U.S.C.C.A.N. 2394, 2402 (emphasis added); *accord* H.R.Rep. No. 82-1923, at 9 (1952). In *Aro*, the

Supreme Court unequivocally stated the same: "And § 271(a) of the new Patent Code, *which defines 'infringement,'* left intact the entire body of case law on direct infringement." 365 U.S. at 342, 81 S.Ct. 599 (emphasis added).

The idea of defining infringement separately in the context of § 271(a) and (b) is simply unsupported by the text itself. *See* 35 U.S.C. § 271(a) and (b). The majority essentially asserts that the word "infringement" in § 271(b)—and presumptively § 271(c) as well—can be defined however this court wants without reference to any statutory provision. Such a bold move from settled principles is unsupported and unwarranted. Congress is presumed to have intended the word "infringement" in § 271(b) and (c) to target the same conduct as "infringes" in § 271(a); it is the same word, simply used as a verb in paragraph (a) to define the act. *See Taniguchi v. Kan Pac. Saipan, Ltd.*, —— U.S. ——, 132 S.Ct. 1997, 2004-05, 182 L.Ed.2d 903 (2012) ("[I]t is a normal rule of statutory construction that identical words used in different parts of the same act are intended to have the same meaning.") (internal quotations omitted); *Hall v. United States*, ——U.S. ——, 132 S.Ct. 1882, 1891, 182 L.Ed.2d 840 (2012) ("At bottom, identical words and phrases within the same statute should normally be given the same meaning . . . . Absent any indication that Congress intended a conflict between two closely related chapters, we decline to create one." (internal quotation omitted)). As the Supreme Court has held, when the relevant language "was inserted into [the statutory provisions] *at the same time*," as is the case with § 271(a)-(c), "[t]hat maxim is doubly appropriate." *Powerex Corp. v. Reliant Energy Servs., Inc.*, 551 U.S. 224, 232, 127 S.Ct. 2411, 168 L.Ed.2d 112

(2007) (emphasis added). "The interrelationship and close proximity of these provisions of the statute presents a classic case for application of the normal rule of statutory construction that identical words used in different parts of the same act are intended to have the same meaning." *Comm'r v. Lundy*, 516 U.S. 235, 250, 116 S.Ct. 647, 133 L.Ed.2d 611 (1996) (internal quotations omitted).

The limited doctrines of indirect infringement are explicitly premised on an underlying "infringement." *See* 35 U.S.C. § 271(a)-(c); *Aro*, 365 U.S. at 341, 81 S.Ct. 599. The Supreme Court has expressly rejected interpreting the 1952 Act to divorce indirect infringement from direct infringement. In *Aro*, the Supreme Court unequivocally held: "[I]t is settled that if there is no direct infringement of a patent there can be no contributory infringement." *Aro*, 365 U.S. at 341, 81 S.Ct. 599. The majority argues that *Aro* does not stand for the proposition that "liability for inducement requires that a single party be liable for direct infringement" because the issue in *Aro* was limited to whether there was *any* underlying act of direct infringement based on the defense of permissible repair. [App. 23a-24a]. The majority's attempt to distance *Aro* from this case is unconvincing. There is no indication in the Supreme Court's statement in *Aro* that it was intended to have such a limited meaning. The question of whether or not there was *liability* for an underlying act of direct infringement was squarely at issue in *Aro*, and the Court held that without "direct infringement *under § 271(a)*," i.e., *liability*, there can be no indirect infringement. 365 U.S. at 341, 81 S.Ct. 599 ("[Defendant's] manufacture and sale [of a component part] with . . . knowledge might well constitute contributory infringement

under § 271(c), *if, but only if, such a replacement by the purchaser himself would in itself constitute a direct infringement under § 271(a).*" (emphasis added)). Not being liable under § 271(a) based on the doctrine of permissible repair is indistinguishable from not being liable under § 271(a) based on the fact that no one has made, used, offered for sale, or sold the patented invention, i.e., no one has performed a complete act of direct infringement. In *Aro*, the Supreme Court meant exactly what it said: "'In a word, if there is no infringement of a patent there can be no contributory infringer,' . . . and . . . 'if the purchaser and user could not be amerced as an infringer certainly one who sold to him . . . cannot be amerced for contributing to a non-existent infringement.'" *Id.* (quoting *Mercoid I*, 320 U.S. at 674, 677, 64 S.Ct. 268). The word "amerced" is directly tied to *liability*. The Supreme Court was not just talking about underlying conduct, but liability. Unless someone is liable as a direct infringer, no one is liable for indirect infringement.

The majority cites portions of congressional testimony by Giles S. Rich (later "Judge Rich") to support its interpretation of the statute. But Judge Rich's testimony is inconclusive and raises as many questions as it answers. First, it is not at all apparent that the statement relied on by the majority at pages [App. 12a-14a] of its opinion is actually directed to inducement and not contributory infringement. As the majority itself recognizes, "[p]rior to the 1952 Act, inducement and contributory infringement were both referred to under the rubric of contributory infringement." [App. 10a] (citing Giles S. Rich, *Infringement Under Section 271*, 21 Geo. Wash. L. Rev. 521, 537 (1953)). Moreover, Judge Rich later

took a seemingly different position before Congress at the 1951 hearings, stating: "I should state at the outset that wherever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed. It is a very different thing from a concept like contributory negligence." *Aro*, 365 U.S. at 347 n. 1, 81 S.Ct. 599 (quoting *Hearings before Subcomm. of House Judiciary Comm. On H.R. 3760*, 82d Cong. 151 (1951)).

However the testimony may be read, the Supreme Court has repeatedly admonished that Congressional hearing testimony, not from a member of Congress, is not entitled to any weight or significance in statutory interpretation. *See, e.g., Kelly v. Robinson*, 479 U.S. 36, 51 n. 13, 107 S.Ct. 353, 93 L.Ed.2d 216 (1986) (Even when "comments in the hearings . . . may suggest that the language bears the interpretation [in question b]ut none of those statements was made by a Member of Congress, nor were they included in the official Senate and House Reports[, w]e decline to accord any significance to these statements."); *McCaughn v. Hershey Chocolate Co.*, 283 U.S. 488, 493, 51 S.Ct. 510, 75 L.Ed. 1183 (1931) (The same principle applies to "statements . . . made to committees of Congress or in discussions on the floor of the Senate by senators who were not in charge of the bill."). "For reasons which need not be restated, such individual expressions are without weight in the interpretation of a statute." *McCaughn*, 283 U.S. at 494, 51 S.Ct. 510 (citations omitted). With the upmost respect for Judge Rich, his testimony at the Congressional hearings does not and cannot justify extending by judicial fiat the scope of § 271 beyond the words chosen by Congress to reflect *its* intent.

Under the majority's approach, if two or more parties independently practice the elements of a claim, an act of "infringement" to support a charge of induced infringement under § 271(b) has occurred. *See* [App. 8a-10a]. The problem with that approach is that there is no statutory basis for concluding that such independent acts constitute infringement and no basis for asserting a cause of action for infringement against any of those independent parties. This runs directly afoul of 35 U.S.C. § 281, which provides that when there is an "infringement," "[a] patentee *shall* have remedy by civil action . . . ." § 281 (emphasis added). As the majority points out, "[s]ection 281 . . . was designed to serve as a 'preamble' for the sections on remedies and to ensure that an action for infringement (a 'civil action') would be triable to a jury." [App. 21a] (citing H.R.Rep. No. 82-1923, at 10, 29 (1952) ("[T]he modern term civil action is used, [so] there would be, of course, a right to a jury trial.")). While the majority looks to the legislative history as evincing that § 281 does "not declare that any practicing of a patented invention necessarily brought with it the right of the patent owner to *recover* in a civil action for infringement," [App. 22a] (emphasis added), whether there is a recovery or not is beside the point. The fact remains that, under § 281, where patent "infringement" exists, a patentee has a right to plead a cause of action in civil court, i.e., the patentee has a right *not* to have his claim dismissed under Fed. Rule of Civ. P. 12(b)(6) for "failure to state a claim upon which relief *can* be granted" (emphasis added).

The Majority's reliance on *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1567 (Fed.Cir.1983), is misplaced and misleading. First, *Fromson* merely

vacates an incorrect claim construction. *Id.* at 1571. Contrary to the majority's reading, there was no holding in *Fromson* that a party could contributorily infringe a method claim by performing some but not all of the steps thereof. Second, *Fromson* never identified the claims that were potentially contributorily infringed. As the Majority notes, the case involved both product and process claims. [App. 28a-29a]. A *product* claim is directly infringed by *making the product*. Thus, the statement in *Fromson* can be read to relate only to the product claims. Third, in the sentences immediately after the portion quoted by the Majority, the court in *Fromson* explained that even though some products were not completed by the accused infringer (but by the customer), other products were. Thus, the claim construction issue actually decided in that case did not depend on the resolution of the doctrinal question at issue here. Finally, *Fromson* contains no doctrinal analysis on this issue. Rather it contains little more than a recitation of hornbook law in explaining the background of the appeal.

Broadening the doctrine of inducement, such that no predicate act of direct infringement is required, is a sweeping change to the nation's patent policy that is not for this court to make. *See Mayo Collaborative Servs. v. Prometheus*, —— U.S. ——, 132 S.Ct. 1289, 1305, 182 L.Ed.2d 321 (2012) ("[W]e must hesitate before departing from established general legal rules lest a new protective rule that seems to suit the needs of one field produce unforeseen results in another. And we must recognize the role of Congress in crafting more finely tailored rules where necessary."). This is not a case where Congress has given us a statute of unclear meaning and it falls to the

court to interpret the statute. This is the opposite case, where the meaning of Congress's enactments is clear. That a majority of this court dislikes the policy that results from the statute as Congress wrote it is not a valid foundation for the action taken today. *See id.* (declining to determine "whether, from a policy perspective, increased protection for discoveries of diagnostic laws of nature is desirable").

3. Congress's Addition of § 271(e)(2), (f), and (g) Exemplify that Defining Infringement is not the Province of This Court

The majority points to the more recent additions of 35 U.S.C. § 271(e)(2), (f), and (g) as evidence that "the statute uses the term 'infringement' in a way that is not limited to the circumstances that give rise to liability under section 271(a)." [App. 20a]. From this, the majority justifies its new definition of "infringement" under § 271(b). [App. 9a] (defining "infringement" for the purposes of inducement liability as "acts that collectively practice the steps of the patented method"). But these newer additions do not support the majority; indeed they contradict it. Section 271(b) does not define infringement *at all*. Section 271(a) does. *Aro*, 365 U.S. at 342, 81 S.Ct. 599. Section 271(b) was added with knowledge of the definition of infringement in § 271(a). *See id.*

Congress enacted § 271(e) and (f) in 1984 and § 271(g) in 1987 to satisfy specific policy goals. The fact that § 271(e), (f), and (g) identify acts not falling under § 271(a) that are to be treated as infringement confirms that, when Congress intended to cover acts not encompassed within the traditional definition of infringement, it knew how to create an alternative definition thereof. For example, Congress enacted § 271(e)(2) to create "an act of patent infringement

[when a party] submit[s] an ANDA for a drug (1) which is claimed in a valid product patent, or (2) a use of which is claimed in a valid use patent . . . ." H.R.Rep. No. 98-857, at 26 (1984), 1984 U.S.C.C.A.N. 2647, 2678. Section 271(e)(2), is "a highly artificial act of infringement," *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 678, 110 S.Ct. 2683, 110 L.Ed.2d 605 (1990), which Congress created to satisfy "a very limited and technical purpose that relates only to certain drug applications," *id.* at 676, 110 S.Ct. 2683. Similarly, Congress enacted § 271(f) to create "an [act of] infringement [when an entity] suppl[ies] components of a patented invention . . . that are to be combined *outside the United States*." H.R.Rep. No. 1984 U.S.C.C.A.N. 5827, 5828 (emphasis added). In passing that section, Congress responded to the Supreme Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972), interpreting § 271(a) to exclude such extra-territorial acts. This was "*a legislative solution to close a loophole in patent law.*" H.R.Rep. No. 1984 U.S.C.C.A.N. 5827, 5828 (emphasis added); *see also* S.Rep. No. 98-663, at 3 (1984) (explaining the policy goal of preventing entities from "circumvent[ing] a patent" by supplying components for assembly abroad). Finally, Congress enacted § 271(g) to create an act of infringement when an entity "without authority imports in the United States or sells or uses within the United States a product which is made by a process patented in the United States." S.Rep. No. 100-83, at 48 (1987). The House Report explains that "[t]here [wa]s no policy justification for encouraging such overseas production and concurrent violation of United States intellectual property rights. *The courts cannot solve this defect. The Congress can. The compelling nature of this policy defi-*

ciency has been evident to leaders in both the legislative and executive branches." H.R.Rep. No. 100-60, at 6 (1987) (emphasis added).

Congress knows how to create alternative forms of infringement. Congress, however, apparently does not take issue with this court's interpretation of § 271(a), (b), and (c) in *BMC* and *Muniauction*. If it did, Congress recently had the chance to amend the statute in the Leahy-Smith America Invents Act, Pub.L. No. 112-29, 125 Stat. 284 (2011), signed into law on September 16, 2011. The fact that Congress was aware of *BMC* and *Muniauction* when it reformed the 1952 Patent Act indicates that Congress did not intend to abrogate the single entity rule for direct infringement, or broaden indirect infringement liability beyond its intentionally limited scope.

4. The Majority's Analogies to Criminal and Tort Law are Flawed

In an attempt to justify its statutory revision, the majority overstates and improperly analogizes to fundamental principles of criminal and tort law. The majority asserts that 18 U.S.C. § 2 "has been construed to permit the conviction of an accessory who induces or causes a criminal offense even when the principal is found not liable for the unlawful conduct." [App. 15a] (citing *Standefer v. United States*, 447 U.S. 10, 19, 100 S.Ct. 1999, 64 L.Ed.2d 689 (1980)). This proposition is unremarkable, however, as illustrated by *Standefer*. In *Standefer*, while the principal was acquitted on the relevant charges in a *separate trial*, the Supreme Court found that, in the trial at bar, the "petitioner received a fair trial at which the Government . . . prov[ed] beyond reasonable doubt that [the principal] violated [the statute] and that petitioner aided and abetted him in that

venture." 447 U.S. at 26, 100 S.Ct. 1999. The Supreme Court held: "In denying preclusive effect to the [principal's] acquittal [in the previous trial], . . . [t]his case does no more than manifest the simple, if discomforting reality that different juries may reach different results under any criminal statute." *Id.* at 25, 100 S.Ct. 1999 (internal quotations omitted). In *Standefer*, the Supreme Court required proof of the *underlying statutory violation*, the Government met its burden to prove the *underlying statutory violation* in the case at bar, and thus the case does not stand for the broad proposition that the majority has quoted it for.

Moreover, the Majority's statutory analogy to 18 U.S.C. § 2 is facially incorrect. Each of the cases upon which the majority relies to assert that "the inducer's liability does not turn on whether the intermediary is factually guilty or even capable of committing the charged offense," [App. 15a], was decided under 18 U.S.C. § 2(b), which imposes liability on a defendant who causes an "act," which "*would be an offense*," to be done through an intermediary (who may be innocent). 18 U.S.C. § 2(b) ("Whoever willfully causes an act to be done which, if directly performed by him or another would be an offense against the United States, is punishable as a principal."); [App. 15a] (citing *United States v. Tobon-Builes*, 706 F.2d 1092, 1099 (11th Cir.1983), *United States v. Gleason*, 616 F.2d 2, 20 (2d Cir.1979), and *United States v. Rapoport*, 545 F.2d 802, 806 (2d Cir. 1976)). The appropriate analogy, however, is between 35 U.S.C. § 271(b) and 18 U.S.C. § 2(a), *not* § 2(b). Section 2(a) provides that anyone who "*aids, abets, counsels, commands, induces or procures* [the] commission [of a crime], is punishable as a principal."

Compare with 35 U.S.C. § 271(b) ("Whoever *actively induces* infringement of a patent shall be liable as an infringer."). In *United States v. Concepcion*, 983 F.2d 369 (2d Cir.1992), the second circuit explained:

> The requirements of § 2(a) [Federal criminal aiding and abetting or "inducement"], however, are somewhat different [than § 2(b)]. Whereas § 2(a) speaks in terms of procuring or aiding and abetting the commission of an "offense," and hence requires proof that the primary actor had criminal intent, § 2(b) speaks in terms of causing the actor to perform only an "act."

Id. at 383. When a defendant is charged with aiding and abetting under § 2(a)—unlike for a defendant who is a cause in fact of a "would be" offense under § 2(b)—*the guilt of the principal must be proven. Id.* at 383-84. "It is hornbook law that a defendant charged with aiding and abetting the commission of a crime by another [under § 2(a)] cannot be convicted in the absence of proof that the crime was actually committed" (although the principal need not be prosecuted or may have been acquitted by a separate jury in a different trial, been granted immunity from liability, or pleaded to a lesser offense). *United States v. Ruffin*, 613 F.2d 408, 412-13 (2d Cir.1979) (holding that "the acquittal of [the principal] by the same jury which convicted [the appellant] precludes a finding under 18 U.S.C. § 2(a) that [the appellant] aided and abetted . . . the alleged crime"); *accord Standefer*, 447 U.S. at 25-26, 100 S.Ct. 1999 (1980).

Like 18 U.S.C. § 2(a), which requires an actual "offense," 35 U.S.C. § 271(b) requires an actual "infringement." Congress's specific addition of subsection (b) to 18 U.S.C. § 2 in 1948 to capture situations that did *not* qualify as aiding and abetting in

the criminal context discredits the majority's position that we can reach an analogous result in the context of inducement under 35 U.S.C. § 271, absent a similar statutory revision by Congress. *See Concepcion*, 983 F.2d at 383-84 (explaining that Congress added subsection 2(b) in 1948 to reach situations where the primary actor did not "have . . . the 'essential criminal intent'" to "secure a conviction on a theory of aiding and abetting in violation of subsection (a)" (citations omitted)). The majority does not even attempt to explain its reliance on 18 U.S.C. § 2(b) despite the fact that the operative language of 18 U.S.C. § 2(b)—"would be an offense"—is not found in 35 U.S.C. § 271(b). If Congress wished for inducement under 35 U.S.C. § 271(b) to reach the inducement of acts that "would be" an infringement, Congress would have had to use similar language to that in 18 U.S.C. § 2(b), such as it did in 35 U.S.C. § 271(f), which says "would infringe." The majority's "liability-free direct infringement to support inducement" theory is, thus, contrary to the "generally recognized" principle that "there can be no conviction for aiding and abetting someone to do an innocent act." *Shuttlesworth v. City of Birmingham*, 373 U.S. 262, 265, 83 S.Ct. 1130, 10 L.Ed.2d 335 (1963).

Even if 18 U.S.C. § 2(b) "causation" liability could be compared to inducement under 35 U.S.C. § 271(b)—which as explained *supra*, it cannot—to be liable under § 2(b) the actor must nevertheless cause "*prohibited conduct*." *Ruffin*, 613 F.2d at 413; *accord Tobon-Builes*, 706 F.2d 1092, 1099 ("[I]t is well established that § 2(b) was designed to impose criminal liability on one who causes an intermediary to commit *a criminal act* . . . ." (emphasis added)); *Gleason*, 616 F.2d at 20 ("Under 18 U.S.C. § 2(b) a person who

causes an innocent party to commit an act which, if done with the requisite intent, *would constitute an offense* may be found guilty as a principal . . . ." (emphasis added)); *Rapoport*, 545 F.2d at 806 (same). In contrast here, the tort of patent infringement is statutorily defined in § 271(a) as the unauthorized "mak[ing], us[ing], offer[ing] to sell, or sell[ing] any *patented invention*." § 271(a) (emphasis added). Practicing less than all elements of a claim is *not* patent infringement under § 271(a). *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997); *Aro*, 365 U.S. at 340, 81 S.Ct. 599 ("The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly." (quoting *Mercoid I*, 320 U.S. at 667, 64 S.Ct. 268)). When a person induces one or more entities to perform acts that do not constitute the statutorily defined act of *patent infringement*—i.e., induces some form of partial or "contributory" action—that person does not induce any prohibited conduct under the statute, and thus cannot be said to aid and abet any prohibited conduct. *See Shuttlesworth*, 373 U.S. at 265, 83 S.Ct. 1130.

The majority also errs in stating that "liability for inducement of a tort applies even if the person being induced is unaware that his act is injurious and *is not liable for that reason*." [App. 18a] (emphasis added). The majority cites the Restatement of Torts ("1st Restatement") § 876 cmt. b (1938), but that comment merely states that a defendant may be liable for assisting or encouraging the tortious conduct of another "whether or not the other knows his act to be tortious." The premise of the 1st Restatement

is that an encouraged person *is* liable for "tortious conduct." The 1st Restatement does *not* suggest that the "encouraged party" would not be liable. *See* 1st Restatement § 876 cmt. b, illus. 4-5. Nor do the cited cases support the majority's proposition that inducement can be based upon liability-free acts. In each of these cases, the alleged liability is based on the defendant's breach of a direct duty to the plaintiffs; the cases are thus *direct liability* cases—analogous to direct or vicarious liability situations in the patent law context under § 271(a)—and are not dependent upon the commission of a separate statutorily defined tortious act by some innocent or otherwise immune party. *Pelster v. Ray*, 987 F.2d 514, 523-24 (8th Cir.1993) (rejecting a directed verdict for defendants where defendants allegedly sold the plaintiff a car knowing that the vendor had rolled back the odometer); *Hoyt v. Clancey*, 180 F.2d 152, 158 (8th Cir. 1950) (not reaching liability, but rather remanding because "the court's ruling on evidence were [sic] unreasonably restrictive"); *Learjet Corp. v. Spenlinhauer*, 901 F.2d 198, 203 (1st Cir.1990) (plaintiff stated a claim for fraudulent misrepresentation based on defendant's intentional false misrepresentations to the FAA); *Davis v. Louisville Trust Co.*, 181 F. 10, 20 (6th Cir.1910) (fraudulent misrepresentation based on false representations to a publishing agency "with knowledge . . . that their substance would be published to all who might wish to deal with the companies . . . ."); *Hawkins v. Upjohn Co.*, 890 F.Supp. 609, 611 (E.D.Tex.1994) (plaintiff stated a claim for conspiracy to commit fraud based on "defendants' repeated and concerted efforts to manufacture and withhold evidence regarding the drugs at issue from the Food and Drug Administration"); *Graham v. Ellmore*, 135 Cal.App. 129, 26 P.2d 696, 697 (1933)

(salesman not liable for fraudulent inducement of a real estate transaction where he made a false statement to purchasers which he "believed . . . to have been true" based on the landowner's misrepresentation; and not addressing the liability of the landowner on appeal); *Moyer v. Lederer*, 50 Ill.App. 94, 94-96 (Ill.App.Ct.1893) (upholding a jury instruction that "if a merchant furnishes to a mercantile agency . . . a willfully false statement . . . with intent to obtain a standing and credit to which he knows that he is not justly entitled, and thus to defraud whoever may refer to the agency, . . . his liability to any party defrauded by these means is the same as if he had made the false representation *directly to the party injured*" (emphasis added)); *Kuehl v. Parmenter*, 195 Iowa 497, 192 N.W. 429, 431 (1923) (affirming a directed verdict for defendants in a fraud case in which the plaintiff failed to prove damages); *Laun v. Union Elec. Co. of Mo.*, 350 Mo. 572, 583, 166 S.W.2d 1065 (1943) ("The perjured witness and the one who suborns him are joint tortfeasors, acting in conspiracy or combination to injure the party defamed. The fact that one of them is protected from a civil suit by a personal privilege does not exempt the other joint tortfeasor from such suit." (quotation omitted)); *Midford v. Kann*, 32 A.D. 228, 52 N.Y.S. 995 (1989) (upholding a trial judge's charge of false imprisonment against defendant where the defendant caused police officers to illegally arrest the plaintiffs on his property; and not addressing the officers' liability). As shown, in each cited case, although intermediate actors may have directly caused an injury, the party held liable also was held to have *directly* caused an injury.

The 1st Restatement only provides for inducement liability in the presence of an underlying wrongful or "tortious" act or "breach of duty." 1st Restatement § 876; *see also* [App. 17a]. The "tortious conduct" or "breach of duty" in this case is the act *statutorily defined* in § 271(a). There is no tort for inducing an act that is something less than an infringement, and thus *not* itself wrongful, tortious, or a breach of duty. *See* First Restatement § 876.

B. The Single Entity Rule for Direct Infringement Liability under § 271(a)

Direct infringement liability requires that one actor performs each and every element or step of a claim. *See Aro*, 365 U.S. at 340, 81 S.Ct. 599 ("The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly." (quoting *Mercoid I*, 320 U.S. at 667, 64 S.Ct. 268)). Unlike indirect infringement under § 271(b) and (c), which both require a certain mens rea, *Global-Tech Appliances, Inc. v. SEB S.A.*, —— U.S. ——, 131 S.Ct. 2060, 2068, 179 L.Ed.2d 1167 (2011), under § 271(a), direct infringement is a strict-liability offense, *id.* at 2065 n. 2 ("Direct infringement has long been understood to require no more than the unauthorized use of a patented invention .... [A] direct infringer's *knowledge or intent is irrelevant.*" (emphasis added)). Because of the strict-liability nature of direct infringement, this court has limited direct infringement liability "to those who practice each and every element of the claimed invention," *BMC*, 498 F.3d at 1381, i.e., the "single entity rule." *See Cross Med. Prods. v. Medtronic Sofamor Danek*, 424 F.3d 1293, 1311-12 (Fed.Cir.2005) (applying the single entity rule). The

single entity rule, consistent with the statute, protects an actor who practices less than all elements of a claim—i.e., does not practice the "patented invention"—from direct patent infringement liability.

The legislative history supports the single entity rule for direct infringement. Congress enacted § 271 to clarify the scope of *indirect infringement*, and in so doing, "left intact the entire body of case law on direct infringement." *Aro*, 365 U.S. at 342, 81 S.Ct. 599. When the Supreme Court held in *Aro* that § 271(a) did not change the law of *direct* infringement, the Court was referring to the single entity, all elements rule of direct infringement that was "well settled" in 1952. *See Wallace v. Holmes*, 29 F. Cas. 74, 80 (C.C.D.Conn.1871) ("The rule of law invoked by the defendants is this—that, where a patent is for a combination merely, it is not infringed by one who uses one or more of the parts, but not all, to produce the same results . . . . *This rule is well settled, and is not questioned on this trial.*" (emphasis added)).

Today, just as in 1952, where a single entity does not perform each and every claim limitation, that entity may not be characterized as or held liable as a direct infringer. *See Aro*, 365 U.S. at 340, 81 S.Ct. 599; *Cross Med.*, 424 F.3d at 1311-14 (Fed.Cir.2005) (holding that there can be no direct infringement of a product claim where surgeons, and not the defendant, made the claimed apparatus in the operating room, and remanding to determine whether the surgeons directly infringed such that Medtronic could be held liable for indirect infringement). Contributory actions—such as the performance of some, but not all, steps of a method claim—do not meet the all elements test, and thus must be analyzed exclusively under the doctrines of indirect infringement. *BMC*,

498 F.3d at 1381 ("[E]xpanding the rules governing direct infringement to reach independent conduct of multiple actors would subvert the statutory scheme for indirect infringement.").

Limelight and many *amici* argue that the word "whoever" in § 271(a) ("whoever ... uses ... any patented invention") undermines the single entity rule. *See* 1 U.S.C. § 1 ("In determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things ...." (emphasis added)). This argument fails for two reasons. First, if one interprets "whoever" to include the plural, the statute simply states the obvious: More than one entity can be independently liable for direct patent infringement if each entity practices every element of the claim. Second, the statutory context, with § 271(b) and (c) extending liability to actors who do not independently infringe in limited, specifically defined circumstances, indicates that § 271(a) excludes joint liability. *See City of Columbus v. Ours Garage & Wrecker Serv., Inc.*, 536 U.S. 424, 445, 122 S.Ct. 2226, 153 L.Ed.2d 430 (2002) ("It is a well-established principle of statutory construction (and of common sense) that when ... 'two words or expressions are coupled together, one of which generally includes the other, it is obvious that the more general term is used in a meaning excluding the specific one.'") (quoting J. Sutherland, Statutes and Statutory Construction § 266 p. 349 (1891)).

C. Traditional Principles of Vicarious Liability Still Apply to § 271(a)

Our "divided infringement" case law is rooted in traditional principles of vicarious liability. *BMC* held that, where the actions of one party can be legally

imputed to another such that a single entity can be said to have performed each and every element of the claim, that single entity is liable as a direct infringer. 498 F.3d at 1380-81. Before *BMC*, the judiciary and the patent law community generally recognized that multiple actors could together infringe a patent only if one somehow controlled the other(s). *See Mobil Oil Corp. v. Filtrol Corp.*, 501 F.2d 282, 291-92 (9th Cir. 1974) ("Mobil contends that Filtrol and Texaco split between them the performance of the four steps of the claim . . . . *We question whether a method claim can be infringed when two separate entities perform different operations and neither has control of the other's activities.* No case in point has been cited." (emphasis added)); Mark Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 258 (2005) ("[C]ourts have imposed liability for direct infringement *where another person acts as an agent of the alleged infringer*." (emphasis added)). Applying traditional principles of vicarious liability to direct infringement under § 271(a) protects patentees from a situation where a party attempts to "avoid infringement . . . simply by contracting out steps of a patented process to another entity . . . . It would be unfair indeed for the mastermind in such situations to escape liability." *BMC*, 498 F.3d at 1381.

BMC's holding that direct infringement liability under § 271(a)—in the context of joint actors—exists only where one party was shown to "control or direct each step of the patented process," 498 F.3d at 1380, is properly rooted in the doctrine of vicarious liability. *See also Muniauction*, 532 F.3d at 1329. Both tort and agency law guide *BMC*'s test. *See* Restatement (Second) of Torts § 877 (1979) ("For harm resulting to a third person from the tortious conduct of

another, *one is subject to liability if he . . . orders or induces the conduct . . . , [or] controls, or has a duty to use care to control, the conduct of the other . . .* and fails to exercise care in the control . . . ." (emphases added)); Restatement (Third) of Agency § 1.01 (2006) ("Agency is the fiduciary relationship that arises when one person (a 'principal') manifests assent to another person (an 'agent') that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act."); Restatement (Second) of Torts § 315 (1965) ("There is no duty so to control to the conduct of a third person as to prevent him from causing physical harm to another unless . . . *a special relation exists between the actor and the third person which imposes a duty upon the actor to control the third person's conduct . . .*" (emphasis added)).

The vicarious liability test also reaches joint enterprises acting together to infringe a patent. The acts of each participant in a joint enterprise are, by definition, imputed to every member.

> All members of a joint venture may be jointly and severally liable to third persons for wrongful acts committed in furtherance of the joint enterprise. Thus, the negligence of one participant in the enterprise or venture, while acting within the scope of agency created by the enterprise, may be imputed to another participant so as to render the latter liable for the injuries sustained by third persons as a result of the negligence.

48A C.J.S. Joint Ventures § 60; *see also* Restatement (Second) of Torts § 491 (1965) ("Any one of several persons engaged in a joint enterprise, such as to make each member of the group responsible for physical harm to other persons caused by the negligence

of any member, is barred from recovery against such other persons by the negligence of any member of the group.").

A joint enterprise exists for the purposes of imposing vicarious liability when there is:

> (1) an agreement, express or implied, among the members of the group; (2) a common purpose to be carried out by the group; (3) a community of pecuniary interest in that purpose, among the members; and (4) an equal right to a voice in the direction of the enterprise, which gives an equal right of control. Whether these elements exist is frequently a question for the jury, under proper direction from the court.

Restatement (Second) Torts § 491 cmt. c.; *see also* 57B Am.Jur.2d Negligence § 1138. In *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed.Cir. 2010), this court, relying on *BMC* and *Muniauction*, affirmed the district court's grant of JMOL that there could be no direct infringement because there was insufficient evidence of direction or control, *id.* at 1380-81, even though the two accused entities "formed a strategic partnership, enabled their programs to work together, and collaborated to sell the two programs as a unit," *id.* at 1371. Because the parties in that case would have satisfied the test for joint enterprise based on common purpose and an equal right of mutual control, *see id.*, the en banc court should expressly overrule the holding in that case. This case, as well as the other "joint infringement" cases decided under § 271(a), however, cannot be addressed under the majority's analysis, which purports to limit itself to § 271(b).

The well established doctrine of vicarious liability is the proper test for establishing direct infringement

liability in the multi-actor context. Absent direct infringement, the patentee has not suffered a compensable harm. *See, e.g.*, *BMC*, 498 F.3d at 1379. In patent law, unlike in other areas of tort law—where the victim has no ability to define the injurious conduct upfront—the patentee specifically defines the boundaries of his or her exclusive rights in the claims appended to the patent and provides notice thereby to the public to permit avoidance of infringement. As this court correctly recognized in *BMC*, "[t]he concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by single party." 498 F.3d at 1381. As many *amici* have pointed out, the claim drafter is the least cost avoider of the problem of unenforceable patents due to joint infringement, and this court is unwise to overrule decades of precedent in an attempt to enforce poorly-drafted patents.

Accordingly, I would hold that direct infringement is required to support infringement under § 271(b) or § 271(c) and properly exists only where one party performs each and every claim limitation or is vicariously liable for the acts of others in completing any steps of a method claim, such as when one party directs or controls another in a principal-agent relationship or like contractual relationship, or participates in a joint enterprise to practice each and every limitation of the claim.

D. Judge Newman's Dissent Errs by Resuscitating the Common Law of Joint Tortfeasor

Judge Newman's opinion, which would permit joint actor infringement liability whenever independent parties collectively infringe a patent, is no more satisfactory as a matter of either statutory interpre-

tation or legal analysis. Judge Newman attempts to justify this loose approach to direct infringement liability under § 271(a) by asserting that § 271(a) is not a strict liability provision after all, with the apparent consequence that innocent participants are in fact not liable. This assertion is fallacious. In *Global-Tech*, the Supreme Court held that "[d]irect infringement has long been understood to require no more than the unauthorized use of a patented invention .... [A] direct infringer's *knowledge or intent is irrelevant*." 131 S.Ct. at 2065 n. 2 (emphasis added). The fact that the statutory tort of infringement has no mental state requirement, actual or constructive, *by definition*, renders it a strict liability offense. *See Black's Law Dictionary* 998 (9th ed.2009) (defining "strict liability" as "[l]iability that does not depend on actual negligence or intent to harm, but that is based on the breach of an absolute duty to make something safe"); XVI *Oxford English Dictionary* 899 (2d ed. 1989) (defining "strict liability" as "a liability which does not depend upon intent to commit an offence"). Judge Newman's reliance on § 287's notice provisions for damages as evidence of a requisite mental state conflates *preconditions of suit* with *elements of the tort*, treating the marking requirement as tantamount to a "knew or should have known" element of infringement proper.

Judge Newman's joint actor liability approach under § 271(a) would also disrupt well-settled law with respect to system and apparatus claims by permitting multi-party infringement liability in the context of an apparatus or system claim—an absurd and unworkable result. For example, if a patentee, P, has an apparatus claim to a new and improved machine; and parties N, B, and G are manufactures

who make the nuts, bolts, and gears that comprise the machine; and N, B, and G sell to party A, who assembles and sells or uses the machine; under Judge Newman's test, all are now joint infringers of P's patent. Under such an approach, the need for contributory infringement and inducement, as Congress envisioned, is essentially eviscerated.

III. Application to the Cases on Appeal

A. *Akamai*

In the *Akamai* case, the asserted claims were drafted so as to require the activities of both Limelight and its customers for a finding of infringement. Thus, Akamai put itself in a position of having to show that the allegedly infringing activities of Limelight's customers were attributable to Limelight. Akamai did not meet this burden because it did not show that Limelight's customers were acting as agents of or otherwise contractually obligated to Limelight or that they were acting in a joint enterprise when performing the tagging and serving steps. Accordingly, I would affirm the district court's grant of Limelight's motion for JMOL of non-infringement under § 271(a).

I would also reinstate the portion of the panel's opinion addressing Limelight's alternative ground for affirmance and conditional cross-appeal of the damages award, as well as the portion dealing with the '645 and '413 Patents.

B. *McKesson*

In the *McKesson* case, the doctor-client relationships of the MyChart health care providers and their patients do not by themselves give rise to an agency relationship or impose on patients a contractual obligation such that the voluntary actions of the patients can be said to represent the vicarious actions of their doctors. Nor is there anything to indicate that the MyChart health care providers act in any joint enterprise with their patients. Accordingly, I would affirm the district court's grant of Epic's renewed motion for summary judgment of noninfringement.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 2009-1372, 2009-1380, 2009-1416, 2009-1417

AKAMAI TECHNOLOGIES, INC.,
Plaintiff-Appellant,

AND

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,
Defendant-Cross Appellant.

Dec. 20, 2010

Before RADER, Chief Judge, LINN and PROST, Circuit Judges.

LINN, Circuit Judge.

Akamai Technologies, Inc. and the Massachusetts Institute of Technology (collectively, "Akamai") appeal the district court's judgment as a matter of law ("JMOL") overturning a jury verdict of infringement by Limelight Networks, Inc. ("Limelight") of claims 19-21 and 34 of U.S. Patent No. 6,108,703 (the " '703 patent"). *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, 614 F.Supp.2d 90 (D.Mass.2009) ("*JMOL Opinion*"). Akamai also appeals the district court's construction of claim 1 of U.S. Patent No. 7,103,645 (the " '645 patent") and claims 8, 18, and 20 of U.S.

Patent No. 6,553,413 (the " '413 patent"). Limelight cross appeals the district court's denial of JMOL relating to the jury's award of lost profits. *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos. 2009-1372, -1380, -1416, -1417, 2010 WL 331770 (Fed.Cir. Jan.27, 2010) (finding Limelight's cross appeal in this case proper as to the lost profits determination).

Because Limelight did not perform all of the steps of the asserted method claims, and the record contains no basis on which to attribute to Limelight the actions of its customers who carried out the other steps, this court affirms the finding of noninfringement and does not reach Limelight's cross-appeal regarding damages. This court also affirms the district court's judgment of noninfringement of the '645 and '413 patents based on its rulings on claim construction.

BACKGROUND

I. The Technology and the Nature of the Dispute

Information is typically delivered over the Internet from websites. Websites are collections of documents written using a standard page description language known as Hypertext Markup Language ("HTML"). Each web page is a separate HTML file with an identifying string of characters known as a Uniform Resource Locator ("URL"). Typically, a full URL (e.g., "http://www.cafc.uscourts.gov/forms") consists of several elements: a protocol (e.g., "http://"); a domain name (also referred to herein as a "hostname") (e.g., "www.cafc.uscourts.gov"); and sometimes a path (e.g., "/forms"). A typical web page consists of a base HTML document that includes text interspersed with various types of content such as images, video, and sound—referred to as objects. Most of these objects are not incorporated into the

web page in their entirety, but instead are simply included as links, in the form of separate URLs, which reference the actual object stored elsewhere on the same computer or another computer in the same domain (a group of networked computers that share a common domain name). These objects are referred to in the patents as "embedded objects." An embedded object's URL is typically the same as that of the web page containing the embedded object, with the object's name appended thereto (e.g., "http://www.cafc.uscourts.gov/forms/pic.jpg").

The Internet maintains a Domain Name System ("DNS"), which uses computers, known as domain name servers ("DNS servers"), to convert the hostname of a URL into a numeric Internet Protocol ("IP") address, which identifies one or more computers that store content ("content servers"). This conversion process is referred to as "resolving." A user requesting a web page using a web browser (e.g., Netscape Navigator® or Microsoft Internet Explorer®) will receive an IP address from a local DNS server that corresponds to the content server for the requested web page. In response, the user's computer sends a request for the web page directly to that content server using the IP address. The content server sends the requested web page—the base HTML document and any embedded objects' URLs—to the user's computer. The user's web browser then requests each embedded object from the content provider's server using that object's URL in the same manner that it requested the web page until all of the objects have been retrieved and the web page is fully displayed on the user's computer.

This process of retrieving web content can be slow and unreliable. For example, Internet congestion

problems may occur when a single content server receives many simultaneous requests for the same web page—sometimes referred to as "flash crowds." In addition, users may experience poor content delivery performance when the user's computer is located far away from the content server it is accessing. One known solution to these content delivery problems is called mirroring, in which an entire website is replicated on multiple servers in different locations. Mirroring, however, has scalability problems, including costs required by the multiple hosting facilities, additional overhead associated with keeping mirror sites synchronized, and a ceiling on the number of website copies that may be maintained concurrently. '703 patent col.1 ll.34-61.[1] In response to these known problems with delivering content, Akamai sought to provide a scalable solution that could efficiently deliver large amounts of web content and handle flash crowds. Akamai obtained the three patents at issue, which all share the same specification and disclose a system for allowing a content provider to outsource the storage and delivery of discrete portions of its website content.

All three patents include method claims directed to a content delivery service that delivers the base document of a web site from a content provider's computer while individual embedded objects of the website are stored on an object-by-object basis on a Content Delivery Network ("CDN"). CDNs are systems of computers strategically placed at various geographical locations to maximize the efficient delivery of information over the Internet to users

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[1] Because the specifications of all three patents are substantially identical, we refer throughout to the specification as it appears in the '703 patent.

accessing the network. The embedded objects are stored on and served from the CDN's "hosting" or "ghost" servers. Instead of maintaining identical copies of the entire web site content at a single location or at multiple locations by mirroring as taught by the prior art, only embedded objects are replicated on and served from a CDN. To allow users accessing a content provider's web page to receive embedded objects from a CDN, the URL of the embedded object must point to a CDN hosting or ghost server instead of to a computer within the content provider's domain. To this end, the specification of the patents describes modifying the embedded object's URL, "to condition the URL to be served by the global hosting servers." '703 patent col.6 ll.41-46. This process of modifying an embedded object's URL to link to an object on the CDN is referred to as "tagging."

Akamai and Limelight operate and compete in the market for CDN services. Limelight's accused service delivers content providers' embedded objects from its CDN. According to Limelight's contracts with its content provider customers, to use Limelight's CDN service, the content provider must perform several steps. First, the content provider must choose which embedded objects, if any, it would like to be served from Limelight's CDN. The content provider must then tag the URL of each chosen object as instructed by Limelight. Limelight then replicates the properly tagged objects on some or all of its servers and directs a user's request for one of these objects to an appropriate Limelight server.

II. Proceedings Before the District Court

On June 23, 2006, Akamai sued Limelight in the United States District Court for the District of Massachusetts asserting infringement of the '645,

'703, and '413 patents. After a trial on infringement of independent claims 19 and 34 and dependent claims 20-21 of the '703 patent, a jury returned a verdict of infringement and awarded $40.1 million in lost profits and $1.4 million in reasonable royalty damages. The two independent claims asserted at trial cover methods that require tagging at least some embedded objects in a content provider's web page so that requests for those objects resolve to a domain name other than the content provider's domain name. Claim 19 also requires serving the requested web page from the content provider's domain. Claims 19 and 34 read as follows, with steps at the heart of this dispute emphasized:

19. A content delivery service, comprising:

replicating a set of page objects across a wide area network of content servers managed by a domain other than a content provider domain;

for a given page normally served from the content provider domain, tagging the embedded objects of the page so that requests for the page objects resolve to the domain instead of the content provider domain;

responsive to a request for the given page received at the content provider domain, serving the given page from the content provider domain; and

serving at least one embedded object of the given page from a given content server in the domain instead of from the content provider domain.

'703 patent col.19 ll.6-20.

34. A content delivery method, comprising:

distributing a set of page objects across a network of content servers managed by a domain other than a content provider domain, wherein the

network of content servers are organized into a set of regions;

for a given page normally served from the content provider domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain;

in response to a client request for an embedded object of the page:

resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and

returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

'703 patent col.20 ll.32–52.

It is undisputed that Limelight does not itself perform every step of the asserted claims. *JMOL Opinion* at 116. Limelight provides the information necessary for its customers, the content providers, to modify their web pages or Internet address routing information to use the Limelight service. However, the content providers perform the actual tagging step (emphasized above) themselves. There are two tagging methods used by Limelight's customers. As described by the district court:

In the first method, the customer changes the host-name address of one or more page objects in the initial web page to point to Limelight's servers (the "prepend method"). In the second method, the customer adds or changes alias information in its DNS record so that the host-

> name addresses of the page objects resolve to Limelight's servers without requiring any change to the customer's initial web page (the "CNAME method").

JMOL Opinion at 117 n. 23. The content provider also serves the web page from its own domain. Limelight performs the rest of the steps of the asserted claims. This divided process is explicitly set forth in Limelight's standard customer contract, which states:

> Customer [i.e., content provider] shall be responsible for identifying via the then current [Limelight] process all [URLs] of the Customer Content to enable such Customer Content to be delivered by [Limelight]

and

> Customer shall provide [Limelight] with all cooperation and information necessary for [Limelight] to implement the [Content Delivery Service].

J.A. 17807.

Because Limelight itself does not perform all the steps of the asserted claims, Akamai presented a theory of joint liability at trial. Akamai relied on the reasoning expressed by this court in *BMC Resources* that while "[i]nfringement requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention," joint liability may be found when one party "control[s] or direct[s]" the activities of another party. *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed.Cir.2007). The district court, following *BMC Resources*, instructed the jury that Limelight could only be found to infringe if "the content provider, when [tagging objects], acts under the direction and

control[2] of Limelight such that Limelight can properly be deemed to be the one to do it." *JMOL Opinion* at 118. The district court added that the jury "should review the evidence, decide how the Limelight systems work, how does the interaction with the content provider work, and, specifically, does Limelight direct and control the modifications or does the content provider carry out these tasks entirely independently." *Id.*

Following the verdict finding infringement, Limelight moved for JMOL of noninfringement on the ground that substantial evidence did not support the verdict that Limelight directs or controls all the steps in the asserted claims. Initially, the district court denied the motion "because, unlike in *BMC Resources*, here there was evidence that not only was there a contractual relationship between Limelight and its customers, but that it provided those customers with instructions explaining how to utilize its content delivery service." *JMOL Opinion* at 119. Subsequently, this court issued its decision in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed.Cir.2008), and Limelight moved for reconsideration. *Muniauction*, applying *BMC Resources*, held that an accused infringer's control over its customers' access to an online system, coupled with instructions on how to use that system, was not enough to establish direct infringement. *Id.* at 1328-30. On reconsideration, the district court granted JMOL of noninfringement to Limelight holding that there was "no

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[2] The district court initially instructed the jury that Limelight must both direct *and* control the actions of the Content Provider, but then issued a correcting instruction that "[i]t is either direct or control, control or direct; it doesn't have to be both." *JMOL Opinion* at 118 n. 26.

material difference between Limelight's interaction with its customers and that of Thomson in *Muniauction*." *JMOL Opinion* at 122.

Akamai appeals and this court has jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Joint Infringement of the '703 Patent[3]

On appeal, Akamai asserts that we should reverse the district court's JMOL of noninfringement of the '703 patent because substantial evidence supports the jury's determination that Limelight exercises control or direction over the entire claimed process. Akamai attempts to distinguish *Muniauction*, arguing that Limelight: (1) creates and assigns a unique host-name for the content provider; (2) provides explicit step-by-step instructions to perform the tagging and serving claim steps; (3) offers technical assistance to help content providers with their performance of the claim steps; and (4) contractually requires content providers to perform the tagging and serving claim steps if they utilize the Limelight service. Limelight responds that Akamai's evidence is indistinguishable from that found legally insufficient in *Muniauction* and therefore we should affirm.

It is well settled that direct infringement requires a single party to perform every step of a claimed method. *BMC Resources*, 498 F.3d at 1378-79 (citing *Warner-Jenkinson Co., Inc. v. Hilton Davis Corp.*, 520 U.S. 17, 40, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997)). In both *BMC Resources* and *Muniauction* this court confronted the situation in which more

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[3] Because Akamai waived any assertion of indirect infringement before trial, the question before us is one of direct infringement only. Feb. 26, 2008 Trial Tr. at 46:4-22.

than one party is required to perform the steps of a claimed method. The court concluded that there can be no infringement unless "one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party." *Muniauction*, 532 F.3d at 1329 (citing *BMC Resources*, 498 F.3d at 1380-81). In assessing whether "control or direction" is present, the court in *BMC Resources* made reference to the legal principle that imposed "vicarious liability on a party for the acts of another in circumstances showing that the liable party controlled the conduct of the acting party." *BMC Resources*, 498 F.3d at 1379 (citing *Engle v. Dinehart*, 213 F.3d 639 (5th Cir.2000) (unpublished decision); Restatement (Second) of Agency § 220 cmt. d). The court concluded that "[it] would be unfair indeed for the mastermind in such situations to escape liability." *Id.* at 1381. Moreover, the court in *BMC Resources* also explained that "[a] party cannot avoid infringement . . . simply by contracting out steps of a patented process to another entity." *Id.*

While the "control or direction" test of *BMC Resources* established a foundational basis on which to determine liability for direct infringement of method claims by joint parties, it left several questions unanswered, including the question of whether the furnishing of instructions is sufficient to attribute the actions of the instructed party to the accused. *Muniauction* addressed the question about instructions and, in concluding that the instructions in that case were not enough, reiterated the notion of vicarious liability mentioned in *BMC Resources*. The court in *Muniauction* held that the requisite level of control or direction over the acts committed by a third party is met in circumstances in which "the law

would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party." 532 F.3d at 1330. Thus, both *BMC Resources* and *Muniauction* set forth relevant factors in assessing liability for joint infringement.

While control or direction is a consideration, as is the extent to which instructions, if any, may be provided, what is essential is not merely the exercise of control or the providing of instructions, but whether the relationship between the parties is such that acts of one may be attributed to the other. Implicit in this court's holdings in *BMC Resources* and *Muniauction* is that the performance of a method step may be attributed to an accused infringer when the relationship between the accused infringer and another party performing a method step is that of principal and agent, applying generally accepted principles of the law of agency as explicated by the Supreme Court and the Restatement of Agency. The Restatement defines agency as "the fiduciary relationship that arises when one person (a 'principal') manifests assent to another person (an 'agent') that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act." Restatement (Third) of Agency § 1.01. For an agency relationship to exist, and thus, for infringement to be found, both parties must consent that the agent is acting on the principal's behalf and subject to the principal's control. *See Dixson v. United States*, 465 U.S. 482, 505, 104 S.Ct. 1172, 79 L.Ed.2d 458 (1984) (citing the Restatement (Second) of Agency § 1 for the rule that an "agency relationship [is] created when one person agrees with another 'that the other shall act on his behalf and subject to his control'"). Similarly, also

implicit in the court's holdings in *BMC Resources* and *Muniauction*, is that joint infringement occurs when a party is contractually obligated to the accused infringer to perform a method step.

In assessing infringement based on the actions of joint parties, it is not enough to determine for whose benefit the actions serve, for in any relationship there may be benefits that inure in some respects to both parties. This court therefore holds as a matter of Federal Circuit law that there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps. Neither is present here.

The court notes that the common law of agency encompasses not only the fiduciary relationship noted above, but also some other relationships, which may include those of independent contractors. *United States v. Hudson*, 491 F.3d 590, 595 (Fed.Cir.2007) ("As a matter of legal custom and tradition, . . . nothing about the title independent contractor invariably precludes someone from being an agent under appropriate circumstances."); Restatement (Third) of Agency § 1.01 cmt. c ("The common law of agency . . . additionally encompasses the employment relation . . . . [T]he common term 'independent contractor' is equivocal in meaning and confusing in usage because some termed independent contractors are agents while others are nonagent service providers . . . . This Restatement does not use the term 'independent' contractor."); Restatement (Second) of Agency § 2(3) ("An independent contractor . . . may or may not be an agent."). This same principle applies to the question of joint infringement. A party that engages another to perform a step of a claimed

method as its agent cannot escape liability simply by designating its agent an independent contractor if all the elements that otherwise reflect an agency relationship are present.

In this case, there is nothing to indicate that Limelight's customers are performing any of the claimed method steps as agents for Limelight. To the contrary, Limelight's CDN is a service similar to Thomson's on-line auction system in *Muniauction*, and Limelight's relationship with its customers is similar to Thomson's relationship with the bidders. In both cases, customers are provided instructions on use of the service and are required to perform some steps of the claimed method to take advantage of that service. In *Muniauction*, the customers performed the step of bidding. Here, the customers decide what content, if any, they would like delivered by Limelight's CDN and then perform the step of "tagging" that content. Limelight's customers also perform the step of "serving" their own web pages.

Akamai argues that in *Muniauction*, the direction or control provided by Thomson was "only tangentially related to the claimed process" because it related to controlling access to the auction system, not directing users on what bid information to input. Akamai's Principal Br. at 44. According to Akamai, here the control or direction is directly related to the claimed step because Limelight tells providers not only how to tag, but also what hostname to use as a tag. Further, Akamai points out that by including the word "direct" in the "control or direct" test, this court in *BMC Resources* must have meant the word "direct" to mean something other than "control," and this case "presents the ultimate in direction" because of the detailed instructions and technical assistance

provided to customers by Limelight. Akamai's Principal Br. at 42. However, the words in the *BMC Resources* test must be read in the context of traditional agency law. "An essential element of agency is the principal's right to control the agent's actions. Control is a concept that embraces a wide spectrum of meanings, but within any relationship of agency the principal initially states what the agent shall and shall not do, in specific or general terms." Restatement (Third) of Agency § 1.01 cmt. f. Like *BMC Resources*, the Restatement and the Supreme Court refer to the words "control" and "direction" when assessing whether an agency relationship exists, but there is no indication that an agency relationship arises when one party simply provides direction, no matter how explicit, to another party. All the elements of an agency relationship must be present. *See Meyer v. Holley*, 537 U.S. 280, 286, 123 S.Ct. 824, 154 L.Ed.2d 753 (2003) ("The Restatement [] specifies that the relevant principal/agency relationship demands not only control (or the right to direct or control) but also 'the manifestation of consent by one person to another that the other shall act *on his behalf*, and consent by the other so to act.'").

Akamai also argues that the relationship between Limelight and its customers compels a finding of joint infringement because Limelight "contracts out to content providers the claim steps that it alone does not perform." This conclusion stems from Limelight's standard form contract that, according to Akamai, "obligates content providers to perform the claim steps of tagging the embedded objects and serving the tagged page so that requests for the embedded objects resolve to Limelight's network instead of the content provider's." Akamai's Principal Br. at 40.

For this argument, Akamai relies on the statement in *BMC Resources* that "[a] party cannot avoid infringement . . . simply by contracting out steps of a patented process to another entity." *BMC Resources*, 498 F.3d at 1381. Akamai's reliance on this statement is misplaced.

As discussed above, Limelight's customers decide what content, if any, they choose to have delivered by Limelight's CDN and only then perform the "tagging" and "serving" steps. The form contract does not *obligate* Limelight's customers to perform any of the method steps. It merely explains that the customer will have to perform the steps *if* it decides to take advantage of Limelight's service. *See Muniauction*, 532 F.3d at 1329 ("[M]ere 'arms-length cooperation' will not give rise to direct infringement by any party."). What is critical here is whether the evidence shows that the relationship between Limelight and its customers is such that the steps in question are performed by the customers as agents of Limelight or under a contractual obligation and are, thus, properly attributable to Limelight. It is true that Limelight's agreement calls for its customers to assign a unique hostname, requires content providers to perform certain claim steps if they choose to use Limelight's service, and provides instructions and offers technical assistance for performing those steps. However, none of those points establishes either Limelight's control over its customers or its customers' consent to Limelight's control. To the contrary, the agreement merely provides the customers with the tools to allow them to exercise their independent discretion and control over how and in what respect they implement the system. Limelight's customers did not perform the actions of tagging and serving as

Limelight's agents and were not contractually obligated to perform those actions. Instead, the evidence leaves no question that Limelight's customers acted principally for their own benefit and under their own control.

While acknowledging the difficulty of proving infringement of claims that must be infringed by multiple parties, this court has noted that such concerns "can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party." *BMC Resources*, 498 F.3d at 1381. Akamai recognizes and, indeed, asserts that the other two patents at issue in this case (the '645 and '413 patents), which share the same specification, do not implicate this joint infringement issue because of the way the asserted claims were drafted. Oral Arg. 10:35-11:10, *available at* http://oralarguments.cafc.uscourts.gov. This court also observes that in addition to initially structuring a claim to capture infringement by a single party, patentees may be able to correct a claim that can only be infringed by multiple parties by seeking a reissue patent. *See* Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 278-79 (2005).

Here, the asserted claims were drafted so as to require the activities of both Limelight and its customers for a finding of infringement. Thus, Akamai put itself in a position of having to show that the allegedly infringing activities of Limelight's customers were attributable to Limelight. Akamai did not meet this burden because it did not show that Limelight's customers were acting as agents of or were contractually obligated to Limelight when performing the tagging and serving steps. Thus, the

district court properly granted JMOL of noninfringement to Limelight.

* * *

Limelight argues as an alternative ground for affirmance that Akamai presented no substantial evidence that Limelight or its customers actually performed the tagging limitation as properly construed. Because we find that the district court properly granted JMOL of noninfringement on the ground stated, we need not and do not address this argument. Likewise, we do not reach Limelight's conditional cross-appeal of the damages award alleging that Akamai failed to present economic proof of a causal link between Limelight's infringement and any Akamai lost sales.

II. Claim Construction of the '645 and '413 Patents

After the district court's claim construction order, *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 494 F.Supp.2d 34, 39 (D.Mass.2007) ("*Claim Construction Order*"), Akamai stipulated that it could not prove infringement of the '645 patent under the district court's construction. The district court thus entered judgment of noninfringement. The district court subsequently entered summary judgment of noninfringement of claims 8, 18, and 20 of the '413 patent. Akamai appeals the district court's construction of several terms in the '645 and '413 patents. While Limelight does not concede that the '645 and '413 patents do not implicate a joint infringement issue similar to that found in the '703 patent above, both parties agree that even if such an issue does exist, it is not properly before the court in this appeal. Oral Arg. 10:35-11:10; 30:40-31:40 (Limelight's counsel stating that the joint infringement issues for the '645 and '413 patents were not devel-

oped at the trial court). Thus, we decide Akamai's appeal of the district court's construction of several terms in the asserted claims of the '645 and '413 patents independent of any potential joint infringement issues.

We review claim construction de novo. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed.Cir. 1998) (en banc). "We begin a claim construction analysis by considering the language of the claims themselves." *Edward Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed.Cir.2009). However, "the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format." *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed.Cir. 2001).

A. The Technical Setting

As part of a system for efficient content delivery, the '645 and '413 patents describe a framework including a set of "hosting" or "ghost" servers used to store and deliver a website's embedded objects. '703 patent col.3 ll.4-7. To determine the location of a hosting computer on which a particular object is stored, the framework includes a second set of servers that are configured with functionality that is similar to, but not exactly the same as, a typical Internet DNS server, such that the servers resolve URLs specifically for the CDN. The specification refers to this second set of servers as "top-level" DNS servers. *Id.* col.3 ll.17-21, 31. The specification also describes a third set of servers that provide "low-level DNS" functionality. *Id.* col.3 ll.22-24. Together, the top-level and low-level servers form an "alternative

domain name system." According to the patents' preferred embodiment, when a user's machine requests a web page from a content provider, the web page base document is delivered to the user's computer from the content server in the traditional manner described above. *Id.* col.3 ll.24-27. Any embedded objects in that web page that are stored on the CDN's hosting servers, however, are located using the invention's framework. First, the top-level DNS server determines the user's location in the network and uses that information to identify a list of low-level DNS servers. *Id.* col.3 ll.29-33, 60-61. The top-level DNS server then redirects the request for the embedded object to one of the identified low-level DNS servers that, in turn, resolves the request into an IP address for the appropriate hosting server that delivers the object to the user's computer. *Id.* col.3 ll.33-37. The specification does not limit the framework to two levels of DNS servers, but describes "a hierarchy of DNS servers that consisting [sic] of several levels." *Id.* col.3 ll.37-41. In addition, the top-level and low-level DNS functionality may be combined into a single DNS level. *Id.* col.5 ll.54-57.

The specification also describes load balancing across the set of hosting servers. *Id.* col.3 ll.66-67. Load balancing is the process of equalizing the workload on multiple computers. The specification describes a load balancing technique based on distributing the embedded object requests. This technique can be included in the tagging process by modifying the embedded object URL using the hostname of a "virtual server." *Id.* col.4 ll.1-5. A virtual server is simply a reference to a hosting server whose physical location is not determined until a user attempts to access a specific object. This allows users to re-

trieve the objects stored on hosting servers efficiently based on a number of continually changing factors (e.g., network traffic, user location). Thus, upon retrieval of a modified web page by a user, the hosting framework maintained by the CDN will resolve the virtual server hostname in the modified URL into the IP address of the appropriate hosting server from which to retrieve the object.

Claim 1 of the '645 patent provides:

> In a wide area network in which an Internet domain name system (DNS) is useable to resolve DNS queries directed to participating content provider content that is available from participating content provider sites, a method of content delivery wherein participating content providers identify content to be delivered by a service provider from a set of content servers that are distinct from the participating content provider sites and associated with the service provider, wherein *a given object of a participating content provider is associated with an alphanumeric string*, the method comprising:
>
> having the service provider establish an alternative domain name system (DNS), distinct from the Internet domain name system and any client local name server, and having authority to *resolve the alphanumeric strings associated with the objects* identified by the participating content providers so that the objects identified by the participating content providers are available to be served from the service provider's content servers, the service provider's alternative domain name system having one or more DNS levels, wherein at least one DNS level comprises a set of one or more name servers;
>
> for each of one or more participating content providers, delivering a given object on behalf of the

participating content provider, wherein the given object is delivered by the following steps;

responsive to a DNS query to the given object's associated alphanumeric string, the DNS query originating from a client local name server, receiving the DNS query at a given name server of a lowest level of the one or more DNS levels in the service provider's alternative domain name system, *the given name server that receives the DNS query being close to the client local name server as determined by given location information*;

having the given name server that receives the DNS query resolve the alphanumeric string into an IP address that the given name server then returns to the client local name server, wherein *the alphanumeric string is resolved without reference to a filename for the given object*, wherein the IP address returned as a result of the resolution is associated with a content server within a given subset of the set of content servers, the subset of the set of content being associated with the given name server, the content server associated with the IP address returned by the given name server being selected according to a load sharing algorithm enforced across the subset of the set of content servers associated with the given name server;

at the content server associated with the IP address, receiving a request for the given object, the request having the filename associated therewith;

if the given object is available for delivery from the content server associated with the IP address, serving the given object from the content server.

'645 patent col.17 ll.39-col.18 ll.29 (emphases added).

Claim 8 is representative of the asserted claims of the '413 patent. It provides:

> A method of content delivery wherein participating content providers identify content to be delivered by a content delivery network service provider from a set of content servers associated with the content delivery network service provider, wherein a given object of a participating content provider is associated with a [URL] that includes, *in addition to a filename, an alphanumeric string*, comprising:
>
> having the content delivery network service provider establish a domain name system (DNS) having authority to resolve the alphanumeric strings in the URLs of the objects identified by the participating content providers, the content delivery network server provider's *domain name system having one or more DNS levels*, wherein at least one DNS level comprises a set of one or more name servers;
>
> for each of one or more participating content providers, delivering a given object on behalf of the participating content provider, wherein the given object is delivered by the following steps;
>
> *responsive to a DNS query, selecting a given one of the name servers in the content delivery network service provider's domain name system*;
>
> at the given one of the name servers, resolving the alphanumeric string to an IP address, wherein the alphanumeric string is resolved without reference to the filename for the given object;
>
> at a server associated with the IP address, the server being one of the set of content servers, receiving a request for the given object, the request having the filename associated therewith;

from the server, serving the given object; and

caching the given object at the server so that the given object is available for delivery from the server for a given time period in the event that a new DNS query to resolve the alphanumeric string is received at the domain name system and is resolved to the IP address of the server.

'413 patent col.18 ll.14-51 (emphases added).

B. Associated with an Alphanumeric String

Akamai appeals the construction of the term "a given object of a participating content provider is associated with an alphanumeric string" in the preamble of claim 1 of the '645 patent.[4] The district court construed the limitation to require that the alphanumeric string include the embedded object's original URL (the URL including the hostname of the computer on which the actual object resided within the content provider's domain). *Claim Construction Order* at 39. The court reasoned that the written description portion of the '645 patent "describes *the invention* as associating a particular object of a content provider with an alphanumeric string consisting of a virtual server hostname prepended onto the URL for the object." *Id.* at 40. The court found that "[t]he specification discloses no other way that an object is associated with an alphanumeric string, nor is there any suggestion or teaching that an association which did not include the URL for the embedded object could be used in an embodiment of the invention." *Id.* The district court declined as overly broad Akamai's proposed construction of the term "associated" accord-

[4] Neither party contends that the term in question is not a limitation because it is part of the preamble.

ing to its dictionary definition of "brought into some kind of relationship with."

Akamai contends that the court imported a limitation from the specification into the claims and thereby improperly limited the scope of the claims to the specification's preferred embodiment. According to Akamai, nothing in the claim language supports requiring that the alphanumeric string include the original URL. Akamai relies on the parties' stipulation that "alphanumeric string" is "a character string up to 24 characters drawn from the alphabet (a-z), digits (0-9), minus signs (-), and periods(.)." Stipulated Order Establishing the Constructions for Certain Claim Terms as Agreed Upon by the Parties at 3, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, No. 06-CV-11109 (D.Mass. Apr. 24, 2007). Akamai asserts that the specification and prosecution history do not define "associated" as having any meaning other than its ordinary meaning. Thus, Akamai argues that the ordinary meaning of the words in the claim compel a broad interpretation without the limitation introduced by the district court. Akamai also argues that the specification very clearly indicates that including the object's original URL in the alphanumeric string is merely the preferred method. Akamai contends that one of ordinary skill in the art would understand that other tagging methods may be used to associate an alphanumeric string with the object.

In addition, Akamai points to the prosecution history, other claim limitations in the '645 patent, and the use of "alphanumeric string" in claim 18 of the '413 patent as evidence contradicting the district court's construction. Akamai notes that (1) none of the examples of alphanumeric strings cited by Akamai during prosecution included the original URL;

(2) other claim limitations of the '645 patent use the term "alphanumeric string" as a virtual server hostname, not a URL; and (3) the preamble of claim 18 of the '413 patent requires a URL to include an alphanumeric string, not the other way around.

Limelight responds that the district court correctly limited the claim term to include the object's original URL because it reflects the '645 patent's explicit description of the invention. Reiterating the points made by the district court, Limelight asserts that the patents consistently describe "the invention" as associating an alphanumeric string with an object by prepending a virtual server hostname to the original URL that identifies the object in the absence of the CDN. Limelight adds that including the original URL in the alphanumeric string is not merely a preferred embodiment in the patents because all the examples in the patents contain the object's original URL.

This court agrees with Limelight and the district court that the claim term "a given object of a participating content provider is associated with an alphanumeric string" limits tagged alphanumeric strings to those strings including the object's original URL. Here, as in *Honeywell International, Inc. v. ITT Industries, Inc.*, 452 F.3d 1312, 1318 (Fed.Cir.2006), alphanumeric strings including the object's original URL were not merely discussed as a preferred embodiment. Instead, the written description specifically refers to strings including the object's original URL as "the invention":

> According to the present invention, load balancing across the set of hosting servers is achieved in part through a novel technique for distributing the embedded object requests. In particular, each

> embedded object URL is preferably modified by prepending a virtual server hostname into the URL. More generally, the virtual server hostname is inserted into the URL.

'645 patent col. 4 ll.13-19.

> According to the invention, the embedded object URL is first modified, preferably in an off-line process, to condition the URL to be served by the global hosting servers.

Id. col.6 ll.54-57.

> Thus, according to the present invention, a virtual server hostname is prepended into the URL for a given embedded object . . . .

Id. col.7 ll.36-38.

> With the above as background, the inventive global hosting framework is now described in the context of a specific example . . . . Instead of returning the usual page, according to the invention, the Web site returns a page with embedded object URLs that are modified according to the method illustrated in the flowchart of FIG. 4.

Id. col.7 l.49-col.8 l.2.

> If, however, no copy of the data on the ghost exists, a copy is retrieved from the original server or another ghost server. Note that the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser.

Id. col.12 ll.54-60.

The specification does include language indicating that the patentee intended certain aspects of the description to represent preferred, rather than required, elements of the invention. *See, e.g.*, '645 patent col.4 ll.15-17 ("[E]ach embedded object URL is

preferably modified by prepending a virtual server hostname into the URL."); *id.* col.6 ll.57-58 ("A flowchart illustrating the preferred method for modifying the object URL is illustrated in FIG. 4."). This court also acknowledges that much of the language describing a string including a URL as "the invention" occurs within the section entitled "Detailed Description of the Preferred Embodiment" or in the description of Figure 4, which is referred to as a "preferred method for modifying the object URL." However, the specification as a whole makes clear that including the object's original URL is the only method to achieve the claimed association between an alphanumeric string and the embedded object. Indeed, it is the only method described. *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed.Cir.2001) ("Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention . . . neither do the claims enlarge what is patented beyond what the inventor has described as the invention.") (internal citations omitted). *See also Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1271 (Fed.Cir.2001) ("[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term 'by implication.'") (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)). Moreover, the specification specifically limits the object's modified URL to either prepending or inserting a virtual server hostname into the URL. '645 patent col.4 ll.15-19 ("In particular, each embedded object URL is preferably modified by prepending a virtual server hostname into the URL. More generally, the virtual server hostname is inserted into the URL.").

Both of these methods include the original URL of the object in the modified string. Finally, the specification describes the proper functioning of the invention as motivation for including the object's original URL in the modified string, "the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser." *Id.* col.12 ll.56-58.

This court is not persuaded by Akamai's argument that the patentee established a broader scope during prosecution or that other uses of the term "alphanumeric string" compel a broader interpretation. Akamai argues that during prosecution the patentee made it clear that an alphanumeric string can be comprised of just a hostname as opposed to requiring the inclusion of an entire URL. Akamai refers to the patentee's description of an examiner interview in a preliminary amendment. The remarks describe the interpretation of the phrase "alphanumeric string" and cite "numerous examples of such strings, such as . . . 'a1234.g.akamaitech.net,'" in the written description. *Id.* col.7 ll.14-15. However, in the specification, the reference to the indicated hostname is in the context of determining a virtual server hostname for ultimate inclusion in the tagged string. The specification does not indicate that this virtual hostname can eventually be the entire string. Instead, the specification clearly describes that the hostname will be "prepended into the URL for the given embedded object" once the hostname is determined. *See, e.g.*, *id.* col.6 ll.63-64. In fact, all the examples in the specification indicate that the ultimate tagged string contains the object's original URL. '645 patent col.8 ll.24-25; *id.* col.8 ll.56-57; *id.* col.9 ll.25-26. Even if we agreed with Akamai that the patentee indicated

in the prosecution history that the alphanumeric string associated with an object could include only a hostname, this is not enough to overcome the clear description of the invention in the specification. *See Honeywell*, 452 F.3d at 1319 ("Where, as here, the written description clearly identifies what his invention is, an expression by a patentee during prosecution that he intends his claims to cover more than what his specification discloses is entitled to little weight."); *Biogen, Inc. v. Berlex Labs.*, 318 F.3d 1132, 1140 (Fed.Cir.2003) (stating that "[r]epresentations during prosecution cannot enlarge the content of the specification."). Akamai's arguments that other uses of "alphanumeric string" in the '645 and '413 patents require a broad interpretation such that the string may include only a hostname are likewise not persuasive. None of the uses of "alphanumeric string" in either patent clearly limits the contents to just a hostname. In fact, Akamai does not explain how a string made up of just a virtual server hostname would be "associated" with the original object even under the broadest definition of that term.

Akamai argues that the district court's requirement that the alphanumeric string include an entire URL is nonsensical because DNS servers resolve hostnames, not URLs. Akamai also asserts that the district court's statement that "[t]he URL of the object is necessary to the inventive global framework in order to retrieve the object from the content provider's server if no copy exists on a ghost [i.e., content] server" in its claim construction order, *Claim Construction Order* at 40, demonstrates a "fundamental misunderstanding of the requirements of the invention." Akamai's Principal Br. at 57. According to Akamai, this statement ignores that the

specification describes retrieving any missing content from either the content provider's original server or another content server in the CDN. None of these arguments are persuasive. At no place does the specification indicate that the entire string must be used by the DNS server. Even if only the hostname is used by the DNS during the resolving step, this does not mean that an alphanumeric string cannot contain other information not used by the DNS during this step. Indeed, this must be the case since the specification explicitly notes that "the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser." '645 patent col.12 ll.56-58.

C. Selection by the Alternative Domain Name System

Akamai also appeals the district court's construction of "the given name server that receives the DNS query being close to the client local name server as determined by given location information" in claim 1 of the '645 patent and "selecting a given one of the name servers in the content delivery network" in claims 8, 18, and 20 of the '413 patent. The district court interpreted both limitations to require that the name server be selected by the alternative domain name system.[5] *Claim Construction Order*, at 42, 45.

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[5] The claim limitations and their associated construction differ slightly for the '645 and '413 patents. For the '645 patent, the limitation "the given name server that receives the DNS query being close to the client local name server as determined by given location information" was construed by the district court to be "the particular name server that receives the DNS query is selected by the alternative domain name system and is close in Internet terms to the client local name server." *Claim Construction Order* at 42. Claims 8 and 18 of the '413 patent include the limitation "responsive to a DNS query, selecting a

The court found that the specification compelled this interpretation because "[r]ead in light of the specification, the invention claims an alternate DNS system that selects a DNS server in response to a user request based on the location of the user." *Id.* at 43. Akamai, citing *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1347 (Fed.Cir.2008), argues that the district court improperly incorporated a structural limitation—the alternative domain name system—into method claims. Moreover, Akamai asserts that claim 1 of the '645 patent does not use the term selecting at all. Akamai points out that claim 1 only requires that the CDN's DNS server receiving a DNS query be close to the client's local name server. In addition, Akamai argues that nothing in the '413 patent claim language, specification, or prosecution history supports the court's requirement of selection by the alternative domain name system. Limelight responds that the district court did not import a new structural limitation because claim 1 expressly requires an alternative domain name system.

This court is not persuaded by Akamai's argument. *DSW* is inapposite. In *DSW* this court reversed the district court's claim construction importing a limitation from a preferred embodiment because the claim language was unambiguously broader than the

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given one of the name servers in the content delivery network," which is construed as "in response to a DNS query, the [CDN's] [DNS] selects a particular name server." *Id.* at 45. Claim 20 of the '413 patent includes the limitation "responsive to a DNS query received from a client local name server, selecting a given one of the name servers in the [CDN]," which is construed as "in response to a DNS query received from a client local name server, the [CDN's] [DNS] selects a particular name server." *Id.* at 45. These distinctions are not germane to the issue presented in this appeal.

preferred embodiment, not because it imported structural limitations into a method claim. *Id.* at 1347. Method claims often include structural details. *See e.g., Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.*, 520 F.3d 1367, 1374 (Fed.Cir.2008) ("Method claim preambles often recite the physical structures of a system in which the claimed method is practiced, and claim 1 is no different."); *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1342 (Fed.Cir.2003) (construing a method claim as including "steps that require the operation or manipulation of the particular structure identified and described by the preamble"). All of the asserted claims in both the '645 patent and the '413 patent explicitly refer to the alternative domain name system as a detail associated with the claimed method. '645 patent col.17 ll.50-51 ("having the service provider establish an alternative domain name system (DNS)"); '413 patent col.18 ll.22-23, col.19 ll.44-45, col.20 ll.25-26 ("having the content delivery network service provider establish an alternative domain name system (DNS)"). Therefore, the structural element of the alternative DNS framework was explicitly and properly included in the claims.

Akamai also asserts that the district court's interpretation improperly limits the inventive framework to a multi-level DNS system. Akamai points out that because the patents explicitly allow for a framework with a one-level DNS framework, a multi-level restriction is unduly limiting. '703 patent col.5 ll.56-57 ("Alternatively, there may be a single DNS level that combines the functionality of the top-level and low-level servers.").

The district court responded to this exact argument in its claim construction order. Specifically, the court

explained that because the specification states that "the functionality of the top and low-level servers" may be combined in "a single DNS level," the specification requires that a single-level DNS system accomplish the same steps as the two-level system described in the preferred embodiment. *Claim Construction Order* at 45. Thus, the district court's construction *does* support a single-level DNS system, and is not limited to a multilevel DNS system. As the district court recognized, the steps described in the preferred embodiment—(1) a top-level DNS server of the CDN selects a close-by low-level DNS server and redirects the user to that server and (2) the user's local DNS server requests the object's IP address from the low-level server—can be accomplished by one DNS server. *Id.* at 46 (citing '413 patent col.9 ll.44-50). Specifically, the district court explained:

> In a single-level DNS embodiment, as suggested by the specification, the user's local name server would still contact a content delivery provider's top-level name server to resolve the IP address of a server to serve an object. This name server, however, would then *directly* communicate with a particular local name server, based on the user's location, to resolve the server's IP address and return it to the user, rather than require the user to conduct a second lookup. Thus, the user would obtain the IP address of the appropriate ghost server with only a *single* DNS request, however the selection of a particular name server would still be the result of a DNS lookup by the service provider's DNS system. Such an embodiment would satisfy the claimed "one" level of DNS, yet not be in conflict with [the district court's adopted] claim construction.

Id. at 45-46.

This explanation is entirely consistent with the specification's description of the invention and effectively counters Akamai's argument that the court's construction improperly limits the invention to a multi-level DNS system. Akamai also asserts, however, that one of these "other techniques" could be substituted for the top-level DNS servers in order to implement a one-level DNS framework. Thus, according to Akamai, the patent, but not the district court's construction, allows for a one-level DNS framework in which "other techniques," such as "Anycasting," would be used to select the ultimate CDN DNS server—instead of a top-level DNS server —because "the specification encompassed techniques known in the prior art." Akamai's Br. at 61 (citing *BJ Servs. Co. v. Halliburton Energy Servs., Inc.*, 338 F.3d 1368, 1372 (Fed.Cir.2003)). This court does not agree that the patent's description allows for such a broad reading of the claims. The patent disclosure supports only one method for choosing the ultimate CDN DNS server—the alternative DNS system. There is no support in the specification for any method of choosing a particular name server other than by a DNS lookup and no disclosure that would have suggested to a person of ordinary skill in the art that anything other than a DNS lookup should be contemplated. There is no evidence that, given the lack of detailed disclosure in the patent's language, a person of skill in the art would have looked to other known techniques to implement this portion of the claimed invention.

In fact, the patent repeatedly defines using DNS lookup for choosing the ultimate CDN DNS server as the "invention." As noted by the district court, the specification describes "the present invention" as

"manipulat[ing] the DNS system so the name is resolved to one of the ghosts that is near the client." '703 patent col.9 ll.26-28. In addition, under the heading entitled "Brief Summary of the Invention," the specification states that "[t]o locate the appropriate hosting servers to use, the top-level DNS server determines the user's location in the network to identify a given low-level DNS server to respond to the request for the embedded object." '703 patent col.3 ll.29-33.

Akamai conceded that under the district court's construction, Limelight does not infringe the '645 patent. Akamai also does not argue that Limelight would infringe the '413 patent under this construction. Therefore, this court is left to conclude that the district court properly entered judgment in favor of Limelight on the issue of infringement.

CONCLUSION

For the foregoing reasons, this court affirms the district court's grant of Limelight's motion for JMOL of noninfringement of the '703 patent. This court also affirms the district court's entry of judgment of noninfringement of the '645 and '413 patents.

AFFIRMED

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.

v.

LIMELIGHT NETWORKS, INC.

[April 24, 2009]

MEMORANDUM AND ORDER

ZOBEL, District Judge.

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I. Introduction

Defendant Limelight Networks, Inc. ("Limelight") seeks relief from a jury finding of patent infringement and an award of $45.5 million in damages to plaintiffs Akamai Technologies, Inc., and the Massachusetts Institute of Technology (hereinafter the singular "Akamai") based on the defenses of inequitable conduct, laches, equitable estoppel and unclean hands. It also moves for reconsideration of my earlier denial of its motion for judgment as a matter of law ("JMOL"). After careful consideration of the evidence presented at the November 2008 bench trial and the arguments in the parties' papers, I hold that Limelight has failed to prove that Akamai's conduct was so egregious that its patent rights should not be enforced. However, based on a clarification in the standard for a finding of joint infringement articulated by the Federal Circuit after the jury trial, Limelight is entitled to JMOL on the issue of infringement.

II. Background and Procedural History

A. Content Delivery Service Providers

Both Akamai and Limelight provide Internet content delivery services to their customers, content providers who maintain, *inter alia*, news and entertainment web sites that supply content to end users' web browsers. Without such a service, a content provider must distribute all its content from its own web servers. This requires the content provider to purchase and maintain servers and telecommunications bandwidth to handle the worst case load, and even then it may be overwhelmed by an unanticipated event, such as a major national disaster, or even a planned event which draws a large number of viewers, such as the Super Bowl. In addition, end users located far from the content provider's servers may

experience poor performance due to Internet delays and congestion.

Content service providers Akamai and Limelight both maintain their own content delivery network ("CDN") consisting of hundreds or thousands of servers located in multiple locations across the United States and around the world. Once a content provider has contracted for content delivery services, a portion of its web content, typically large data files such as images, video and/or sound, is supplied by the CDN from a server located close to the end user rather than from the content provider's servers. Because a content delivery service aggregates the data demands of multiple content providers with differing peak usage patterns and serves that content from multiple servers in multiple locations, it is less likely to slow down or fail when an event creates a high demand for particular content. In addition, since content is supplied from a server close to the end user, that content is less likely to be affected by Internet congestion or breakdowns. The result is that the content provider can obtain the capacity to service its end users under worst case demand conditions without having to pay for capacity that is idle much of the time.

B. Operation of the Parties' Content Delivery Services

A web page typically consists of text interspersed with various types of content such as images, video and sound, which are referred to as page objects. The web page, as well as the page objects, are stored on the content provider's web server. The page objects are normally not included within the web page itself, rather the web page consists of only the text on the page along with links (i.e. an Internet address) point-

ing to the page objects. Upon receiving a request for a web page, the content provider's web server returns the web page containing these links to the end user's web browser. The end user's web browser then uses these links to request each page object from the content provider's server until all the objects have been retrieved and the web page fully rendered.

To utilize Akamai's or Limelight's content delivery service, the content provider modifies its web pages so that the links, or URLs,[1] to the page objects point to the content service provider's servers, not its own.[2] The end user's browser fetches the initial web page from the content provider's server and then uses the returned links to request the other objects on the page from the content service provider's servers. The content delivery service provider replicates these page objects on some or all of its servers and directs the end user's request for an object to an appropriate server. Thus, only the initial page is supplied by the content provider; the remaining page objects are served by the content delivery service provider's web servers. Because the initial page supplied by the content provider is relatively small compared to the size of the page objects, the majority of the information on the page is served by the content delivery service provider.

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[1] URL is short for Uniform Resource Locator, the address of a file or resource on the Internet.

[2] As discussed infra, Limelight's customers may instead modify the way in which the links to page objects are translated into server addresses so that they are fetched from the content service provider's servers rather than the content provider's servers.

C. Akamai's '703 Patent[3]

On July 14, 1998, Akamai filed a provisional application for what would become the '703 patent. The disclosures in this patent form the basis for Akamai's FreeFlow content delivery service. The utility application was filed on May 19, 1999,[4] and Akamai filed a petition to make special ("PTMS") with the Patent and Trademark Office ("PTO") in September 1999 to expedite the examination of its application. *See* 37 C.F.R. § 1.102 (1999). The PTO allowed the PTMS the following month, then, after a single office action in February 2000, allowed the application in April 2000. The patent issued on August 22, 2000.

The '703 patent claims systems and methods for replicating page objects among a distributed set of content delivery service provider servers and redirecting end user requests for those objects to a particular content server. The specification describes, *inter alia*, a modification to the Internet's address lookup system, the Domain Name System ("DNS"), to accomplish this redirection. The DNS consists of a set of computers known as domain name servers which translate ("resolve") textual names of computers on the Internet ("hostnames") into numerical Internet addresses ("IP addresses"). The '703 patent describes the use of virtual hostnames which do not resolve to the IP address of a particular server; rather, in conjunction with the modified DNS described in the patent, the virtual hostname resolves

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[3] United States Patent No. 6,108,703.

[4] For simplicity, in this opinion I refer to the application that resulted in the '703 patent as the '703 application. The actual number of the application was 09/314,863.

to the IP address of a server containing the page object which is near the end user, has the page object and is not overloaded.[5] Thus, a given virtual hostname could resolve to the IP address of servers at opposite ends of the country or around the world depending on the location of the end user, the location of the content and the delays in routing to the available servers.

The two independent claims asserted in the instant case, however, do not require either the use of virtual hostnames or a modified DNS. They do require modifying the links to at least some of the page objects, termed "tagging" in the patent, so that requests for those objects resolve to a content server in a domain other than the content provider's domain. In this context, a domain is an organization's unique name on the Internet, for example "akamai.com" or "limelightnetworks.com."[6] In addition, one of the asserted claims, claim 19, also requires the initial page to be served from the content provider's domain.

The tagging described in the '703 patent adds or "prepends" the hostname of the content service provider's server to the original URL used to retrieve the page object from the content provider's server. Including the original URL in the tagged link provides the content service provider's server with the

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[5] This is a simplified explanation of the methods described in the patent, which actually involve multiple levels of domain name servers and sequential DNS requests to obtain the IP address of the page object server.

[6] A domain name is unique in the sense that only one entity can own a particular domain name. *See Virtual Works, Inc. v. Volkswagen of Am., Inc.*, 238 F.3d 264, 266 (4th Cir.2001). However, a single entity can register and respond to multiple domain names.

information necessary to retrieve the object from the content provider's server if it is not already stored ("cached") locally. Once the content service provider's server fetches an object from the content provider's server, it caches it locally so it is available for subsequent requests for that object.

D. The Farber '598 Patent

On February 10, 1998, Sandpiper Networks, Inc. ("Sandpiper") filed a United States patent application for a content delivery system. Just under a year later, Sandpiper filed an international patent application with the World Intellectual Property Organization under the Patent Cooperation Treaty ("PCT Application") containing the same specification as its earlier United States application. The PCT Application was published on August 12, 1999. Although Sandpiper's United States application was filed before Akamai's provisional application, Sandpiper's patent, United States Patent No. 6,185,598 (the " '598 patent"), did not issue until February 6, 2001, after the '703 patent issued.[7]

The '598 patent claims systems and methods for a content delivery system similar to those claimed by Akamai. However, rather than use DNS to redirect an end user to an appropriate content server (termed a "repeater" in the '598 patent), the patent adds a component called a reflector to the content provider's server to redirect requests for page objects (termed "resources") to be served from a repeater. In one embodiment, the reflector redirects a resource by rewriting the link to the resource to create a new link which designates the repeater instead of the content

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[7] The '598 patent is alternately known as the "Farber patent" after one of its inventors, David J. Farber ("Farber").

provider's server. The rewritten link consists of an identifier for the repeater followed by the original URL to the resource. This identifier can be the hostname of the repeater or the actual IP address of the repeater. The end user's browser then uses the rewritten link to request the resource from the repeater. If the resource is available locally on the repeater, it is returned to the end user. If the resource is not already on the repeater, the repeater uses the original URL portion of the rewritten link to fetch the resource from the content provider's server, returns it to the end user and caches it locally for future requests.

E. Sandpiper's Footprint System

Sandpiper introduced its content delivery service, named Footprint, in September 1998. This initial system (hereinafter "Footprint 1.0") required reflector software running on the content provider's server to intercept end user requests for content and redirect them to Sandpiper's content servers. In spring of 1999, Sandpiper modified its system to use DNS, rather than the redirector software, to redirect end user requests for content. Akamai believed this new system ("Footprint 2.0") was a direct copy of its then newly deployed content delivery system based on the '703 patent.

F. The Digital Island and Speedera Patent Infringement Lawsuits

In September 2000, Akamai filed suit against Digital Island, Inc. ("Digital Island") alleging, *inter alia*, infringement of the '703 patent by Digital Island's (*nee* Sandpiper's)[8] Footprint 2.0 system. On Decem-

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[8] Digital Island acquired the Footprint system when it merged with Sandpiper in 1999. Digital Island was acquired by

ber 21, 2001, a jury found that the Footprint 2.0 system infringed claims 1, 3, 5, 9, 17, 18 and 22 of the '703 patent, but that claims 17, 18 and 22 were invalid as anticipated by Digital Island's '598 patent or obvious in view of the '598 patent and a product by Cisco Systems, Inc., Distributed Director, disclosed in United States Patent No. 6,178,160. (*See* Civ. A. No. 00-11851-RWZ (D.Mass.), Docket # 232.) The district court granted a permanent injunction based on the jury verdict.

Digital Island appealed to the Court of Appeals for the Federal Circuit, arguing that claim 9 was not infringed and that claims 1, 3, 5, and 9 were invalid for anticipation and/or obviousness. In its opinion,[9] the court described the history of Digital Island's '598 patent and its Footprint systems:[10]

> The '598 patent is directed to similar systems and methods [as the '703 patent] for increasing the accessibility of web pages on the Internet. The '598 patent was filed on February 10, 1998, and issued on February 6, 2001. Thus the '598 patent

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Cable and Wireless Plc in 2001, which, in turn, was bought by Savvis Communications. Level 3 Communications purchased Savvis' CDN business in January 2007 and acquired rights to intellectual property developed by Sandpiper. *See Level 3 Commc'ns, LLC v. Limelight Networks, Inc.*, 589 F.Supp.2d 664, 668 (E.D.Va.2008). This complicated genealogy is useful in understanding the evidentiary dispute concerning the admission of images from Sandpiper's 1999 web site, discussed infra Part III.A.2.a.

[9] By the time of the appeal, Digital Island had been acquired by Cable & Wireless Plc. Therefore, the Federal Circuit decision refers to Digital Island as "C & W."

[10] The Federal Circuit decision uses the term "load balancing" for the process of redirecting a request for a page object to an optimal server.

> is prior art to the '703 patent pursuant to 35 U.S.C. § 102(e). C & W marketed and sold products embodying the '598 patent under the name "Footprint." The relevant difference between the disclosure of the '598 patent and Akamai's preferred embodiment disclosed in the '703 patent is the location of the load balancing software. Akamai's preferred embodiment has the load balancing software installed at the DNS servers, while the '598 patent discloses installation of the load balancing software at the content provider, or origin, servers. The '598 patent does not disclose or fairly suggest that the load balancing software can be placed at the DNS servers. It is now understood that placement of the software at the DNS servers allows for load balancing during the resolving process, resulting in a more efficient system for accessing the proper information from the two server networks. Indeed, C & W later created a new product, "Footprint 2.0," the systems subject to the permanent injunction, in which the load balancing software was installed at the DNS servers as opposed to the content provider servers. Footprint 2.0 replaced C & W's Footprint product.

Akamai Techs. Inc. v. Cable & Wireless Internet Servs., Inc., 344 F.3d 1186, 1190-91 (Fed.Cir.2003) (footnote omitted). The Federal Circuit held that claims 1 and 3 of the '703 patent were invalid because they did not require that the load balancing software be placed at the DNS servers and thus were anticipated by the '598 patent. *Id.* at 1194-95.

In February 2002, Akamai sued another competitor, Speedera Networks, Inc. ("Speedera"), alleging that Speedera's Universal Delivery Network infringed several Akamai patents, including the '703 patent.

(*See* Civ. A. No. 02-10188-RWZ (D.Mass.), Docket # 1.) The case settled in mid-2005 after the district court's order on claim construction but before any other decision on the merits.

G. The Instant Lawsuit

Limelight began offering its content delivery services in late 2001. In the spring of 2004, Akamai and Limelight began a series of discussions concerning the possible acquisition of Limelight by Akamai. Ultimately, Akamai choose not to proceed with the proposed deal, and the discussions terminated in the fall of 2004.

In early 2006, Akamai and Limelight again resumed acquisition discussions. However, on June 22, 2006, Limelight informed Akamai that it had found alternative funding and was no longer interested in being acquired. On the following day, Akamai filed the instant lawsuit against Limelight alleging patent infringement.

On February 28, 2008, a jury found that Limelight infringed claims 19-21 and claim 34 of the '703 Patent and that none of the infringed claims were invalid due to anticipation, obviousness, indefiniteness, lack of enablement or written description. The jury awarded Akamai damages of $41.5M based on lost profits and reasonable royalty from April 2005 through December 31, 2007, plus pre-judgment interest, along with price erosion damages in the amount of $4M. (*See* Jury Verdict (Docket # 287).)

The parties filed a flurry of post-trial motions. Akamai renewed its motion for partial summary judgment on Limelight's equitable defenses of laches,

equitable estoppel and unclean hands,[11] moved for summary judgment on Limelight's defense of inequitable conduct and sought a permanent injunction. Limelight moved for a new trial and for a judgment of obviousness and renewed its motion for JMOL on grounds of noninfringement and invalidity. After briefing and a hearing, I denied all six motions, including Akamai's motion for a permanent injunction, which was premature in light of the scheduled bench trial. Shortly thereafter, Limelight moved for reconsideration on the court's denial of its motion for JMOL, citing a newly announced Federal Circuit decision. (*See* Docket # 377.)

After a delay requested by the parties, the court held a three-day bench trial in November 2008 on Limelight's remaining equitable defenses.

III. Discussion

A. Inequitable Conduct During Prosecution of the '703 Patent

Limelight asserts that the applicants for the '703 patent and/or their attorney: (1) had a duty to, but intentionally failed to, investigate the prior art of their key competitor Sandpiper; and (2) intentionally withheld material from the PTO concerning Sandpiper's Footprint 1.0 CDN. It claims that these actions breached the duty of candor and good faith owed to the PTO and thereby constitute inequitable conduct rendering the patent unenforceable. Although I find that the information that was not disclosed

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[11] Limelight had also asserted a defense of patent misuse, which was resolved by the allowance of Akamai's motion for partial summary judgment on this defense. (*See* Hr'g Tr. 5, Feb. 5, 2008 (Docket R 240).)

was material, Limelight has failed to prove the requisite intent necessary to find inequitable conduct.

1. The Legal Standard for Inequitable Conduct

Applicants have a duty to prosecute patent applications with candor, good faith, and honesty. *Duro-Last, Inc. v. Custom Seal, Inc.*, 321 F.3d 1098, 1099 (Fed.Cir.2003); *see also* 37 C.F.R. § 1.56. A breach of this duty constitutes inequitable conduct and renders a patent unenforceable. *See Impax Labs., Inc. v. Aventis Pharms., Inc.*, 468 F.3d 1366, 1374 (Fed.Cir. 2006). To prove inequitable conduct, "the alleged infringer must provide clear and convincing evidence of (1) affirmative misrepresentations of a material fact, failure to disclose material information, or submission of false material information and (2) an intent to deceive." *Id.*

The analysis of inequitable conduct is a two-step process. First, the court must determine whether both the materiality of the information and the intent to deceive have been established. *Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc.*, 326 F.3d 1226, 1234 (Fed.Cir.2003). If so, it must then "weigh them to determine whether the equities warrant a conclusion that inequitable conduct occurred." *Id.* (quoting *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 (Fed.Cir.1995)). In balancing, a greater showing of one factor can compensate for a lesser showing of the other. *Id.*

a. Materiality

Information is material if a reasonable examiner would consider it important in deciding whether to allow the patent application. *Digital Control, Inc. v. Charles Mach. Works*, 437 F.3d 1309, 1314 (Fed.Cir. 2006) (citations omitted). Information can be material even though disclosure of it would not render the

invention unpatentable. *Id.* at 1318. However, prior art that is merely cumulative or less pertinent than information considered by the examiner is not considered material in analyzing a claim of inequitable conduct. *Id.* at 1319.

b. Intent

The evidence must also support a finding that the material information was withheld with an intent to deceive or mislead the PTO. *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1356 (Fed.Cir.2008). "[T]he involved conduct, viewed in light of all the evidence, including evidence of good faith, must indicate sufficient culpability to require a finding of intent to deceive." *Impax Labs.*, 468 F.3d at 1375 (citation omitted). Where the alleged conduct is the nondisclosure of information, there must be clear and convincing evidence that the applicant made a deliberate decision to withhold the information from the PTO. *Molins*, 48 F.3d at 1181.

2. Evidentiary Rulings

a. DX1209—Sandpiper Web Site Images

As discussed *infra*, one of the factual issues relevant to the allegations of inequitable conduct is what Akamai knew about Sandpiper's Footprint system and when it knew it. Daniel Lewin ("Lewin"), one of the inventors of the '703 patent, admitted studying Sandpiper's web site frequently during the pendency of the '703 application. At the bench trial, Limelight moved to admit printouts of Sandpiper's web site from January and May 1999 (DX1209),[12] which included several press releases describing the Foot-

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[12] "DX____" refers to Limelight's Trial Exhibit DX____ offered at the November 2008 bench trial. Similarly, "PX____" refers to Akamai's Trial Exhibit PX____ from the bench trial.

print system, to show the extent of Akamai's knowledge at the time. I admitted the exhibit *de bene*, and the parties have submitted briefs on its admissibility.

In two separate written lists of objections to Limelight's exhibit list, provided to Limelight before the November bench trial, Akamai objected to DX1209 on grounds of relevance and hearsay.[13] (*See* Docket # 395, Exs. 1, 2.) It argues that the press releases are not relevant because there is no evidence that the inventors of the '703 patent ever saw them. However, Lewin testified that in August or September of 1998 a friend sent him the URL for Sandpiper's web site and suggested that he take a look at what it was doing. He further testified that he and others at Akamai

> read the Web site in great detail, which had an overview of what they were doing, what the business was, who the people were that were involved in the company, overall descriptions of what the benefits to a customer were. Their network infrastructure was on the Web site.

(Lewin Dep. 80:5-11, Jan. 18, 2001.) At that time, Lewin discussed Sandpiper as a potential competitor with Tom Leighton ("Leighton"), the other inventor of the '703 patent (collectively with Lewin, the "Inventors"), as well as with other Akamai personnel. He continued to monitor Sandpiper's web site, agreeing that he "looked at the Sandpiper Web page almost daily." (*Id.* at 94:5-7.) Leighton testified that he first learned about Sandpiper in the fall of 1998 "as a consequence of the September 28th press release."

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[13] Akamai also generally reserved its right to object to any exhibit for lack of foundation.

(Trial Tr. Day 2, 109:18-22, Nov. 13, 2008.) He also explained that Akamai deduced the operation of Sandpiper's system by looking at how it delivered Sandpiper's own web site.

Several of the press releases in the proffered exhibit include a description of Sandpiper as "a provider of adaptive content distribution services" and describe Sandpiper's technology as "optimiz[ing] network performance by migrating content based on network conditions, content popularity and traffic loads." (*e.g.*, DX1209 at L3-AKLL-000007.) In addition, a September 28, 1998, press release describes the Footprint "distribution network" as "patent-pending." (*Id.* at L3-AKLL-000010.) The evidence proffered supports the conclusion that both press releases were made available on the web site shortly after release. (*Compare id.* at L3-AKLL-000004 (list of Sandpiper press releases on web site as of Jan. 13, 1999), *with id.* at L3-AKLL-000025 (list of Sandpiper press releases on web site as of May 2, 1999).)

Lewin's and Leighton's testimony, that they paid close attention to Sandpiper's web site beginning in fall of 1998, permits the inference, which I draw, that one or both of them read the press releases contained therein. Therefore, exhibit DX1209 is relevant to the issue of what the Inventors knew about Sandpiper and its Footprint system during the prosecution of the '703 patent. *See* Fed. R. Evid 401.

Akamai's second objection, that the Sandpiper web site printouts are hearsay, fails because they are not offered for the truth of the information contained within. Rather, Limelight seeks to show the Inventors' knowledge that in late 1998 and early 1999 Sandpiper claimed to have a content delivery system that took content popularity, network loads and

congestion into account in delivering content, and that it had submitted a patent application for some part of that system. Whether these claims were actually true is immaterial to the issue of inequitable conduct by Akamai. Therefore, both of Akamai's pre-trial objections to the exhibits are overruled.

On the first day of the bench trial, however, Akamai raised yet another objection, namely, that "the testimony that authenticates these press releases is itself hearsay." (Trial. Tr. Day 1, 52, Nov. 12, 2008.) Before the trial, in September 2008, Limelight, to authenticate DX1209, had provided excerpts from a Rule 30(b)(6) deposition of Andrew Swart ("Swart"), a former Sandpiper employee, taken in a lawsuit between Limelight and Level 3 Communications, LLC ("Level 3"). Akamai objected because it was not a party to that lawsuit and therefore did not have an opportunity to cross-examine Swart. In response, Limelight attempted to depose Swart again, this time with Akamai present. Level 3, however, provided not Swart, but Joseph Lawrence ("Lawrence"), a Level 3 employee, as its 30(b)(6) witness. (*See* Docket # 395, Exs. 6, 7.) Lawrence authenticated the web site printouts and the press releases based on discussions with Swart and another former Sandpiper employee, Will Crowder. Akamai now objects to Lawrence's authentication because it is based on hearsay, not personal knowledge, and Level 3 is not a party-opponent.

While Akamai did object to Lawrence's deposition testimony as hearsay two weeks before the trial, it did not put Limelight on notice that it objected to the authenticity of DX1209. It therefore waived that objection. *See* Fed.R.Civ.P. 26(a)(3)(B) (waiving any objection to exhibits disclosed prior to trial other

than relevance, prejudice or confusion). DX1209, therefore, is admitted for the purpose of showing what information was on the Sandpiper web site in late 1998 and early 1999 when Lewin testified he was viewing the site.[14]

b. PX1004A—Limelight's *Markman* Brief in the Level 3 Lawsuit

[12] Akamai seeks to introduce a *Markman* brief that Limelight filed in an unrelated case as an admission by Limelight that the specification of the Farber '598 patent describes a system significantly different from that described by the '703 patent. In particular, it argues that Limelight's adoption of portions of an email memorandum Farber sent during the pendency of the '703 application establishes the authenticity and admissibility of that memorandum. Limelight objected to the admission of both the brief and the memorandum, and I invited Akamai to provide additional briefing on their admissibility post-trial. (*See* Trial Tr. Day 2, 53:23-25, Nov. 13, 2008.) Akamai has provided a paragraph of explanation why it believes these documents are admissible, citing only to Fed.R.Evid. 801(d)(2) (admissions by a party opponent are not hearsay). (*See* PX1004A, flysheet.)

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[14] When asked directly by the court whether it was denying that the printouts were what was on the web site, Akamai's counsel demurred, admitting that the Sandpiper web site existed, and that Lewin viewed the web site and learned of at least one press release, but insisting several times that there was "no admissible evidence" that DX1209 was what was on the web site. (Trial Tr. Day 1, 52:25, Nov. 12, 2008.) Because Akamai was present to cross-examine Lawrence, whose testimony is not in conflict with that given by Swart earlier, I deem it to have sufficient circumstantial guarantees of trustworthiness to authenticate DX1209 under Fed.R.Evid. 807 as well.

The objection to this exhibit is sustained both because the briefing is inadequate to resolve the legal issue and because this evidence is, in any event, either not relevant to the issue of inequitable conduct or cumulative of other testimony.

c. DX1228—Leighton's Testimony in the Digital Island Trial

At the November 2008 bench trial, Leighton testified that Akamai's investigation into the operation of the Footprint 1.0 system showed that it used IP addresses, not hostnames, to redirect requests for page objects from the content provider's server to the content service provider's servers. He denied both knowing that the Footprint 1.0 system could alternately use hostnames to redirect object requests or having seen the Sandpiper PCT application, which described the use of hostnames as well as IP addresses, prior to the issuance of the '703 patent. On cross-examination, Limelight attempted to impeach Leighton's direct testimony using Farber's deposition and testimony from the 2001 Digital Island trial describing the Footprint 1.0 system. I allowed the questioning de bene over Akamai's objection. I now overrule that objection.[15]

Limelight post trial seeks to introduce a portion of Leighton's testimony from the Digital Island lawsuit to attempt to show that he learned additional information about Footprint 1.0 during the pendency of the '703 application. Akamai objects because by not

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[15] However, while this cross-examination did establish that Leighton learned that Footprint 1.0 could use hostnames from Farber's testimony at the Digital Island trial in 2000, this fact is not in conflict with his direct testimony that the Footprint 1.0 system, *as Akamai observed it in 1998 and 1999*, did not use hostnames.

identifying and offering this testimony at the bench trial, Limelight denied it the opportunity to counter-designate relevant testimony and denied Leighton the opportunity to explain his prior testimony. For reasons similar to those discussed *supra* Part III.A.2.a, overruling Akamai's objection to the Sandpiper web site printouts, its objection to this evidence is sustained.

3. The Allegedly Withheld Information

Limelight alleges that, during the pendency of the '703 application, Akamai was aware of Sandpiper and its Footprint 1.0 system, which, Limelight argues, is an embodiment of the '598 Patent, but failed to disclose this information to the PTO. Limelight further asserts that Akamai was aware that Sandpiper had filed a patent covering the Footprint 1.0 technology and, therefore, had a duty report this information to the PTO or at least conduct an investigation into Sandpiper as part of its PTMS.

a. Materiality

Limelight argues that the '598 patent, and thus the Footprint 1.0 system, was material because the Federal Circuit later held that claims 1 and 3 of the '703 patent were invalid as anticipated by the '598 patent. Akamai responds that the disclosures in the '598 patent were not material because they were cumulative of other information Akamai provided to the PTO. In addition, to the extent the Footprint 1.0 system was an embodiment of that patent, Akamai argues that it did not include the features that the Federal Circuit relied on to find anticipation. In particular, it asserts that the Footprint 1.0 system prepended IP addresses, not hostnames, and therefore did not require the use of DNS, both limitations of the claims ruled invalid as anticipated. *See Akamai Techs.*, 344 F.3d at 1192

(a prior art reference is anticipating if it "discloses each and every limitation of the claim expressly or inherently").

According to the testimony and evidence, the Inventors understood that Sandpiper's Footprint 1.0 system was a framework for delivering web content. As such it attempted to solve the same general problem Akamai was addressing, namely, reducing the bottleneck created by serving all content from a single server while avoiding the limitations of then existing mirroring content delivery systems. Mirroring systems, which duplicate content on multiple servers, do not scale well because it becomes increasingly difficult to keep the content of all the systems synchronized as the number of servers increases. Footprint 1.0, like the system described in Akamai's '703 patent, implemented a content delivery system that split delivery of the contents of a web page by serving the initial page from the content provider's server, but some or all of the page objects from a server closer to the end user. Page splitting addresses the synchronization problem because the original web page need be kept up-to-date only on a single server, that of the content provider. By always fetching the initial page from the content provider's server, a page-splitting system guarantees that the user receives the current content. In addition, both the Footprint 1.0 system and the disclosure in the '703 application replaced the URL to each page object with a rewritten URL that consisted of an identifier for an optimal content server followed by the original URL for the object. This preserves the original Internet address of the object in the new URL, enabling the content server to fetch the object from the content provider's server if the object was not already

cached locally. Therefore, unlike mirroring systems, these systems did not require that all content be copied to the content servers prior to the first end user request. This design ensures that any page objects updated by the content provider are migrated to the content service provider's servers when requested by end users.

The primary differences between the Footprint 1.0 system and that described in the '703 patent is that Footprint 1.0 prepended an IP address not a hostname,[16] and the determination as to which content server to prepend was made at the content provider's server by the reflector, not by the DNS system described in Akamai's application. Nevertheless, Footprint 1.0 attempted to solve the same synchronization problem that the '703 sought to solve in much the same way. While much of the '703 patent focuses on the use of a virtual hostname and DNS to select an optimal content server, several of the claims of Akamai's patent differ from the Footprint 1.0 system only in the use of a *normal* hostname rather than an IP address prepended to the original URL or by requiring the resolution of a hostname. (*See, e.g.*, '703 patent claim 14; *id.* claim 23.) In addition, the Inventors viewed the Footprint 1.0 system as direct competition to their content delivery system, which was based on the invention claimed in the '703 patent, and they expended significant effort to investigate and reverse engineer the operation of this

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[16] Limelight disputes Akamai's contention that the Footprint 1.0 system only prepended IP addresses, not hostnames. As discussed infra Part III.A.3.b., I find credible the testimony and evidence Akamai offered that the Inventors only observed IP addresses prepended in their investigation into the operation of the Footprint 1.0 system.

competing system. Given the similarity in the problem each system attempted to solve and in the operation of the respective systems, "a reasonable examiner would consider [Footprint 1.0] important in deciding whether to allow [Akamai's] application to issue as a patent." *Digital Control*, 437 F.3d at 1315. Thus, Sandpiper's Footprint 1.0 system was material information that should have been disclosed to the PTO during the pendency of Akamai's application, unless it was cumulative of other information provided.

At the bench trial, Akamai's expert, Kevin Jeffay ("Jeffay"), opined that the '598 patent, and thus its embodiment in the Footprint 1.0 system, was merely cumulative of other information Akamai included in its submissions to the PTO. In particular, he asserted that the Kriegsman and Kenner patents, which Akamai did provide to the PTO, disclosed all of the relevant features of the '598 patent. The Kriegsman patent, United States Patent No. 5,991,809 (the " '809 patent") (PX1016), discloses a system consisting of a primary server and one or more secondary servers which mirror static files copied from the primary server.[17] When the primary server receives a request for data, it returns all the dynamic data files requested, then determines an optimum secondary server to serve each static data file. If a requested dynamic data file contains links to static data, software on the primary server replaces those links with new links pointing to the static data on the optimum

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[17] The Kriegsman patent defines "static files" as those which are repeatedly transferred without changes, while files which may be modified for each transfer are termed "dynamic files." (*See* '809 patent, col.1 ll.8-12.) "Static data" includes images, video, computer programs and other non-text data. (*Id.* col.2 ll.9-11.)

secondary server. (*See* '809 patent, col.9 ll.61-65.) However, unlike the disclosure in the '598 patent, the Kriegsman patent does not include the link to the original object in the rewritten link, and therefore the secondary server cannot use the URL of the requested object to request the object from the primary server if it is not stored locally. Rather, the patent describes a mirrored system in which the primary server copies static data to the secondary servers prior to redirecting users' requests for static content to a secondary server. (*See id.* col.6 l.67-col.7 l.9.)

The Kenner patent, United States Patent No. 6,003,030 (the " '030 patent") (PX1015), discloses a content delivery system primarily designed to serve video objects and which utilizes software installed on the end user's computer ("Client Software") to route requests for content to an optimal content server. Content to be served is copied from the original web site to the content servers prior to end user requests for content. When a user makes a request for content which is marked as also available on the content servers, the Client Software attempts to download the content from the optimal server by constructing a URL pointing to that content on the content servers. (*See* '030 patent, col.15 ll.4-10.) If the content is not available, the Client Software tries the next available content server. If the content is not found on any of the content servers, the Client Software retrieves it from the original content provider's site. (*See id.* col.15 ll.18-24.)

According to Jeffay, Kriegsman discloses all aspects of the '598 patent except for prepending the URL pointing to the original object on the content provider's server to the rewritten URL and retrieving the object from the content provider's server when it

is not found on the content server. However, he asserts that these features are disclosed in the Kenner patent. Therefore, the disclosures of the '598 patent are, in his opinion, cumulative of those obtained by combining Kriegsman and Kenner. *But see Molins*, 48 F.3d at 1180 (noting that a withheld reference can be material when no single piece of cited prior art taught the combination present in the reference).

Jeffay's conclusion assumes that the URL created by the '030 patent's Client Software to retrieve the object from a content server includes the original URL pointing to the object on the content provider's server. The patent describes passing information to the end user, and thus to the Client Software, about whether content is available on a content server within a text construct known as an "EMBED" statement. The patent's specification describes how it creates the URL to retrieve the object from a content server, termed a "Smart Mirror:"

> If the [page object] does not exist on the local computer, the player creates a new URL (step 78) in the following form: "http://", plus the IP address of the selected Smart Mirror site stored in the configuration file, plus the path name to mirror files (e.g."/pub/mirror/"), plus *the name of the content provider* taken from the "SM" parameter in the EMBED statement, plus the [page object] *filename* taken from the EMBED statement.

('030 patent col.15 ll.4-10 (emphasis added).) If the content is not available on a content server, the Client Software retrieves it "from the original content provider's site as specified directly by the EMBED statement." (*Id.* col.15 ll.21-24.) Jeffay opines that "the name of the content provider" refers to the hostname of the original server. However, this

is not explicitly stated in the '030 patent and hostnames are not necessarily identical to the name of the content provider, for example, content provider Volkswagen uses the hostname www.vw.com. In addition, both the '598 patent and the '703 patent explicitly describe prepending the hostname of the content service provider's server to the origin server and *path to the original object* and the Footprint 1.0 system prepended the IP address of a content server to the origin server and *path to the original object*. (*See* '598 patent col.8 ll.26-35; '703 patent col.8 ll.4-12; PX1009, 9-10.) The '030 patent, however, only describes appending the name of the content provider and the *filename* of the object, not the path to the original object. In addition, because the '030 patent does not require that a content server be able to retrieve objects which it does not already have mirrored, there is no reason to include the URL to the original object in the constructed URL. Therefore, the evidence is insufficient to conclude that the Kenner '030 patent discloses prepending the identifier of a content server to the URL of the original object as is disclosed in the '598 patent and as was observed by the Inventors in examining the operation of Footprint 1.0. Thus, the '598 patent and the Footprint 1.0 system are not cumulative of the combination of the Kriegsman and Kenner patents.

In addition, neither Kenner nor Kriegsman disclose the technique described in the '598 patent in which content servers use the URL of the original object to retrieve the object if it is not already cached on the content server. In Kenner, it is the Client Software running on the end user's computer that fetches the object if it is not found on any content server. (*See* '030 patent col.6 ll.36-37, col.15 ll.21-24.) Kriegsman

is a mirrored system with data copied to the secondary (content) servers by the primary server before any requests for content are made; therefore, the patent does not contemplate a need to fetch an object in response to a user request to a secondary server. (*See* '809 patent col.3 ll.45-48, col.6 l.67-col.7 l.5.)

For all of these reasons, I find that the '598 patent was material because it contained prior art which was later found to have anticipated several claims of the '703 patent and was not cumulative of other information provided to the PTO during the prosecution of the '703 patent. *See Fox Indus., Inc. v. Structural Pres. Sys., Inc.*, 922 F.2d 801, 804 (Fed.Cir. 1990). I also find that the Footprint 1.0 system was not cumulative of other references provided to the PTO and thus was material for the reasons described *supra*.

b. Intent

Limelight argues that intent by the Inventors to withhold information from the PTO can be inferred from their careful examination of the Sandpiper web site, their investigation into the operation of the Footprint 1.0 system, the temporal proximity of Akamai's PTMS following the publication of Sandpiper's PCT application and the limited search Akamai conducted as part of that PTMS.

Leighton testified that because the Footprint 1.0 system used IP addresses, not hostnames, it did not occur to him that it was relevant to Akamai's efforts to patent its DNS-based system. He stated that he viewed the Sandpiper system as having many of the same deficiencies as the mirroring systems that Akamai was trying to correct, in particular, the bottleneck of having all redirection determinations made at the content provider's server. Footprint 1.0

prepended IP addresses, so there was no way for Sandpiper to use DNS to distribute requests for page objects to other servers. Because he saw the use of DNS as fundamental to the Akamai invention, he did not consider disclosing Footprint 1.0 to the PTO. In addition, he testified that in late 1998 and early 1999 he was preoccupied with efforts to launch Akamai's own content delivery service.

When Sandpiper released Footprint 2.0 after Akamai launched its service, Leighton believed Sandpiper had copied the Akamai system in response to the problems created by the centralization inherent in the architecture of the Footprint 1.0 system. Therefore, he did not consider Footprint 2.0 relevant to the disclosures in the '703 patent application; rather, he asked his patent counsel to investigate the possibility of an infringement claim against Sandpiper when Akamai's patent finally issued. Finally, Leighton stated that he was unaware of Sandpiper's PCT application or its United States patent application until after the '703 patent issued.

Limelight disputes Leighton's credibility. It points out that Sandpiper's web site, which Akamai employees studied in detail, described Sandpiper's technology as "patent-pending" and cites an Akamai competitive overview (PX1009) which, it asserts, shows that Akamai was aware that Footprint 1.0 used hostnames as well as IP addresses.

While I find that Akamai employees, including Lewin, carefully examined Sandpiper's web site and considered Sandpiper a serious competitor in the content distribution arena, there is no evidence that anyone who saw the Sandpiper press releases recognized the "patent-pending" statement as relevant to Akamai's own patent application. As to Akamai's

competitive overview, dated September 30, 1999; it only describes Footprint 1.0 as prepending IP addresses. (*See* PX1009, 9 ("[Sandpiper 1.0] redirect[s] inbound user requests . . . using proprietary routing tables that provide IP addresses . . . ."); *id.* at 10 ("URLs that used [Footprint 1.0] for content delivery typically appear as an IP address followed by a standard URL.").) The document also notes that "nearly all customers use Footprint 2.0," the copy of Akamai's system. (*Id.* at 9.) In addition, Lewin testified in an earlier deposition that Footprint 1.0 only prepended IP addresses. There is no evidence that the Inventors were aware that Sandpiper described prepending hostnames as a separate embodiment of its invention until they read it in the specification for the PCT application or the '598 patent. I find credible Leighton's testimony that the Inventors were not aware of Sandpiper's PCT application until after the '703 patent issued. The coincidence of Akamai's decision to file its PTMS six weeks after the PCT application was published is not enough to persuade me otherwise.

Given the central importance of DNS to the disclosures of the '703 patent and the operation of Footprint 1.0 which only prepended IP addresses, together with the pressures of creating a startup company, I am persuaded that Leighton did not deliberately fail to disclose Footprint 1.0 to the PTO. There is also no evidence that Lewin intentionally failed to disclose Footprint 1.0, only that he studied Sandpiper's web site and therefore may have read Sandpiper's claim that its technology was patent-pending.

Akamai's patent attorney, David Judson ("Judson"), testified that he first became aware of Sand-

piper in summer of 1999 because Akamai believed that Footprint 2.0 was a copy of its system. As a result, his investigations into Sandpiper looked to a possible infringement lawsuit, not possible prior art. Although he became aware of the Footprint 1.0 system as a result of his investigation, I credit his testimony that his focus was on infringement by the Footprint 2.0 system.

With respect to the prosecution of the '703 patent, Judson testified that he made two searches in preparation for the PTMS.[18] First, he conducted a keyword search on a patent database, possibly the IBM patent database; however, he was not sure at trial. He is unable to locate any notes or records of the search. This search did not return Sandpiper because at the time the company had no United States patents.[19] In addition, he searched a patent assignment database for five companies identified by Leighton in the provisional application as involved in the problem of content delivery. Because the provisional application had been filed before Akamai became aware of Sandpiper, it was not one of the five companies listed and therefore was not among the companies searched. Judson testified that his practice was not to search a database of foreign patent assignments, which conceivably might have found Sandpiper's PCT application. Finally, he conducted a

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[18] While a patent applicant normally has no duty to conduct a search for prior art, an applicant that seeks to have his or her application made special assumes, inter alia, an obligation to conduct a "careful and thorough search of the prior art." Manual of Patent Examining Procedure § 708.02(I.)(D) (7th ed.1998).

[19] It is unclear whether this search would have returned Sandpiper even if the database had included the '598 patent, since the '598 specification had its own lexicon for terms such as "reflector" and "repeater."

manual search through other patents he had in his office that he thought might be relevant.

Akamai did disclose approximately 50 references during the prosecution of the '703 case, including the Kriegsman and Kenner patents as well as a paper by Amir, et al. The Amir paper appeared on its face to have been published after the '703 application priority date, but Akamai disclosed to the PTO that it may have been publicly available before that date. At the jury trial, Limelight relied on the Kenner patent and a presentation by Peterson, one of the authors of the Amir paper, to argue that the '703 patent was obvious. Judson testified that he was not aware of the Sandpiper PCT application or the '598 patent until after the '703 patent issued.

In hindsight, Judson probably should have disclosed the existence of Sandpiper's Footprint system to the PTO, or at least included Sandpiper in his searches, and the lack of records concerning his PTMS search investigation is troubling. Nonetheless, I credit his testimony that by the time he became aware of Sandpiper he viewed it as a copier not an innovator. *See Molins*, 48 F.3d at 1181 (expressing concern about "the ease with which a relatively routine act of patent prosecution can be portrayed as intended to mislead or deceive").

Limelight argues that intent can be inferred from Akamai's failure to disclose the Footprint 1.0 system to the PTO, its decision to file a PTMS shortly after the Sandpiper PCT application was published[20] and

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[20] Judson would not describe the reasons Akamai choose to file a PTMS or explain the timing of that application, citing client privilege. Limelight asserts that the court may draw a negative inference from this invocation of attorney-client privilege. This is incorrect. While the invocation of privilege denies

the failure by Judson to search for Sandpiper as an assignee or to search foreign databases. But Akamai did disclose references which Limelight later argued to the jury either anticipated claims in the '703 patent or, when combined, rendered those claims obvious. In addition, it disclosed the Amir paper and explained that the paper could be prior art notwithstanding its apparent date of publication. The Amir paper described the system on which the Peterson presentation was based, a reference heavily relied on by Limelight to invalidate the '703 patent. Thus, I conclude that Limelight has failed to prove by clear and convincing evidence that the Inventors intended to deceive the PTO or that Judson was deliberately indifferent to notice of material information during the pendency of the '703 application. *Cf. Brasseler, U.S.A. I., L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1383 (Fed.Cir.2001) (finding attorneys willfully ignored notice of a potentially invalidating event in an conscious effort to avoid complying with their duty to

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Akamai the benefit of any benign explanation for the coincidence of its PTMS following so closely the publication of Sandpiper's PCT application, it cannot contribute a negative inference. *Compare Brasseler, U.S.A. I., L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1384 (Fed.Cir.2001) (describing the invocation of privilege as one reason it was "not surprising that the district court was unable to point to any credible evidence upon which it could reasonably infer that [the patent attorneys] acted in good faith"), *with Datapoint Corp. v. Picturetel Corp.*, 215 F.3d 1344, 1999 WL 507141, at *4 (Fed.Cir. July 15, 1999) (unpublished) ("The district court [] did not err in excluding the evidence that Datapoint's counsel had invoked the attorney-client privilege and in declining to instruct the jury that it could infer wrongful intent on Datapoint's part from counsel's invocation of the privilege."). *See also Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.*, 383 F.3d 1337, 1345 (Fed.Cir.2004).

disclose). Limelight has not sustained its burden of proof on its charge of inequitable conduct.

B. Limelight's Defenses of Laches and Equitable Estoppel

1. Legal Standard

a. Laches

To prevail on its laches defense, Limelight must prove by a preponderance of the evidence that: (1) "the plaintiff delayed filing suit for an unreasonable and inexcusable length of time from the time he knew or reasonably should have known of his claim against the defendant;" and (2) "the delay operated to the prejudice or injury of the defendant." *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1032 (Fed.Cir.1992) (*en banc*). The laches period begins to run when the patentee has actual or constructive knowledge of the infringer's activity. *Id.* A successful laches defense "bars relief on a patentee's claim only with respect to damages accrued prior to suit." *Id.* at 1041.

A presumption of laches exists where a patent holder delays more than six years before filing suit. *Id.* at 1035. Here, Limelight alleges only a five-year delay between Akamai learning of Limelight's CDN in 2001 and its filing of this lawsuit. Therefore, there is no presumption of laches, and "unreasonable delay and prejudice [] must be proved and judged on the totality of the evidence presented." *Id.* at 1038.

b. Equitable Estoppel

To show equitable estoppel, Limelight must prove: (1) that Akamai communicated by statements or conduct that it did not intend to press an infringement claim against Limelight; (2) that Limelight substantially relied on this misleading conduct, *i.e.* it was

lulled into a false sense of security in its actions going forward; and (3) that it would be materially prejudiced if Akamai is allowed to proceed. *A.C. Aukerman Co.*, 960 F.2d at 1041. The inferences Limelight derived from Akamai's conduct must be reasonable. *Id.* at 1043. "[S]ilence alone will not create an estoppel unless there was a clear duty to speak" or the silence reinforces a plaintiff's acquiescence to a defendant's conduct. *Id.* Unlike laches, equitable estoppel does not require an unreasonable passage of time prior to filing suit. *Id.* at 1041. "Where equitable estoppel is established, all relief on a claim may be barred." *Id.* The Federal Circuit has "adopted the preponderance of evidence standard in connection with the proof of equitable estoppel factors, absent special circumstances, such as fraud or intentional misconduct." *Id.* at 1046.

2. Factual Background

Michael Gordon ("Gordon"), one of the founders of Limelight, testified that Limelight was founded in June 2001 and began marketing its content delivery service in November of that year. Limelight grew and added customers and equipment over the next several years. Late in the first quarter of 2004, officials from Akamai and Limelight met to discuss the possible acquisition of Limelight by Akamai. Over the course of approximately the next six months, Gordon provided Akamai with information on Limelight's financial results, technology and content delivery architecture. At a meeting in June 2004, Gordon, along with Limelight's CEO and its Chief Technical Officer, met with a group of Akamai employees, including several technical people. At that meeting, Limelight explained that its network did not choose a best server, rather it used Internet

routing techniques to route a user's request to a particular group of servers and assigned a particular server to fill the request on a round-robin basis. Gordon understood that Akamai viewed the infrastructure and architectures of Limelight's network as very different from its own. This understanding is confirmed by a summary Akamai prepared during the 2004 negotiations, which described Limelight as "tak[ing] a very different approach to its network architecture than Akamai." (DX1146, AKL064050.) Indeed, according to Gordon, Akamai reached the conclusion that, after an acquisition, the approach that "Akamai would pursue would be to migrate Limelight's customers off of Limelight's architecture and onto Akamai's and then decommission Limelight's network." (Trial Tr. Day 1, 124:11-15, Nov. 12, 2008.)

Ultimately, Akamai decided not to make an offer for Limelight. In a late October 2004 email to another of the founders of Limelight, Robert Wood ("Wood"), the Vice President of Corporate Development for Akamai, concluded the discussions with:

> I . . . want to congratulate you on the great business that you and your team have built. I really enjoyed getting to know you and Mike [Gordon] and hope our paths cross again in the future. My understanding from the last conversation with Broadview is that you guys are going to receive tremendous value for the business and I am glad to hear it.

(DX1072.) Gordon testified that, although he had general discussions with Wood about the Speedera lawsuit, no one at Akamai ever indicated that Limelight's CDN infringed any Akamai patents.

During and after the 2004 negotiations, Limelight continued to add customers, purchase equipment and add capacity to its network. Gordon testified that Limelight invested about $10 million in capital equipment in 2005 alone. It also added three new United States locations for its servers and began building points of presence in several European cities. Limelight purchased equipment at an increasing rate in 2006, at least doubling its purchases in the six months after the lawsuit was filed compared to the prior six months.

In April 2005, Limelight began implementation of a new architecture for its CDN which did not allocate servers on a round-robin basis; rather, it used software that maintained a list of information concerning the "health" of the available servers to select an appropriate server.

In early 2006, the parties renewed acquisition discussions, and this time they progressed to an offer by Akamai to acquire Limelight. However, Limelight decided to stay independent and find alternate funding. On June 22, 2006, it rejected Akamai's final offer, and the parties wished each other well. The following day, Akamai filed this lawsuit charging Limelight with infringing its patents. Gordon testified without contradiction that, prior to notifying him of the lawsuit, Akamai never suggested that Limelight infringed any of its patents or that it had considered suing Limelight.

Leighton testified that Akamai began to investigate the possibility that Limelight was infringing its patents in mid-2005 because Limelight was starting to be a serious competitive threat and because the Speedera litigation had been resolved. The investigation concluded about the time the parties renewed

their acquisition discussions. While the negotiations were ongoing, Akamai refrained from instituting any legal actions, but Limelight's disinclination to be bought removed such restraints.

On cross-examination, however, Leighton admitted that Akamai viewed Limelight as one of its competitors much earlier than 2005, a view confirmed by an April 2002 Akamai confidential document titled "How To Beat LimeLightNetworks." (DX1221.)[21] In that report, Akamai recommended that its sales force "[p]osition LimeLight as a start up—just like the other 25 or so that are out there." (*Id.* at AKL124384.) In addition, an October 2003 internal Akamai email describes Limelight as "a key competitor in several accounts." (DX1212.)

Akamai clearly recognized Limelight as a potentially serious competitor as early as 2002 and, in its memo, considered how to beat Limelight, not the "other 25 or so" content delivery companies. (DX1221.) In addition, by April 2002 Akamai was aware that Limelight had "snagged one of its notable clients, MusicMatch.com" and was pricing its services aggressively against Akamai's FreeFlow service. (*Id.*) However, I find no evidence that Akamai investigated Limelight's technology in the context of patent infringement prior to mid-2005. Wood participated in both the 2004 and the 2004 acquisition discussion, and I credit his testimony that he was unaware of any investigation by Akamai into the question of

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[21] Although Akamai did not object to DX1221 during Leighton's cross-examination, it does so now on grounds of relevance. (*See* DX1221 flysheet.) The objection is overruled. Not only is it belated, but the document is relevant to the issue of how Akamai viewed Limelight at the time and what information it possessed concerning its competitor.

patent infringement during the earlier negotiations. In addition, there is no evidence that Limelight's round-robin CDN implementation infringed any Akamai patent. While Akamai did include this implementation in its initial infringement contentions, it ultimately dropped it from the lawsuit, and the jury awarded damages only for Limelight's use of the architecture introduced in April 2005.

3. Discussion

a. Laches

Limelight argues that Akamai's delay of five years in filing this lawsuit prejudiced it because, had it known that Akamai believed Limelight's technology infringed its patents, Limelight "would likely not have focused solely on expanding its CDN business but would have also developed and expanded other types of business such as transit and hosting businesses." (Docket # 353, 7.) Limelight also complains about evidentiary disadvantages, including witnesses' loss of memory visited upon it as a result of the delay. According to Limelight, since Akamai viewed it as a competitor in the content delivery field, Akamai had a duty to investigate whether Limelight infringed any of its patents and cannot avoid a finding of laches by willful ignorance. Therefore, Limelight argues, Akamai's infringement damages should be limited to damages accruing after it filed suit in 2006.

Akamai responds that it did not learn that Limelight might be infringing its patents until 2005 and that, because it dropped any infringement claims based on Limelight's pre-2005 technology, it sued within 14 months of when the infringing conduct began, and thus there can be no inexcusable delay. Akamai also disputes Limelight's claim that it was

prejudiced by any delay in the filing of the lawsuit. Limelight's argument that it would have "likely" done something different is insufficient to show economic harm and the claimed lack of memory is rebutted by Limelight's factual allegations in its inequitable conduct claim. Moreover, Akamai states that the information Limelight seeks is available in the 2001 transcripts of the Digital Island case, which were taken much closer in time to the events at issue; thus, it suffered no evidentiary prejudice.

First, whether plaintiff unreasonably delayed filing suit depends on the date the clock began to run which, in turn, depends on the date on which plaintiff knew or should have known of defendant's infringement of the '703 patent. If Akamai first became aware of Limelight's use of the infringing technology in 2005, the 14-month delay in filing suit is too short to sustain a finding of laches. This is particularly true here as the parties were engaged in acquisition discussions for more than a third of that time. Limelight does not explicitly dispute this conclusion; rather, it argues that the unreasonable delay began in October 2001, when Akamai first learned of Limelight's competing service. (*See* Limelight's Proposed Findings of Facts and Conclusions of Law (Docket # 407, Ex. A), FF123, FF125, CL83.)

As to knowledge, none of the pre-2005 documents on which Limelight relies suggest that Akamai believed Limelight infringed Akamai's patents, only that Limelight posed a competitive threat. (*See, e.g.*, DX1216, DX1225.) Indeed, that is what it told Gordon, who testified that he was led to believe that Akamai viewed his company's technology as significantly different from its own, and Akamai's internal evaluation of Limelight in June 2004 made precisely

that point. (*See* DX1146, AKL0964050.) Akamai's plan at the time was to purchase Limelight and then shut down Limelight's content delivery system and not even try to integrate it with Akamai's. Thus, there is no evidence that Akamai believed that Limelight was infringing its patents prior to 2005, but that Akamai failed to bring suit.

Nor did Akamai have a duty to investigate Limelight's CDN in 2001. While it "could not simply ignore any and all evidence of potentially infringing activity," it did not have a duty to investigate Limelight merely because it announced a competing service. *Wanlass v. Fedders Corp.*, 145 F.3d 1461, 1466 (Fed.Cir.1998). A duty to investigate a particular product arises "when publicly available information about it should have led [the patent holder] to suspect that product of infringing." *Id.* Akamai does not claim to have invented the concept of content delivery services, nor does it claim that every content delivery service infringes its patent. Rather, as Leighton explained, the key ideas of the Akamai system are tagging page objects with a virtual hostname and adding intelligence to the DNS system to resolve that virtual hostname into an optimal server. During the 2004 discussions, Limelight described its content delivery service as allocating servers on a round-robin basis, i.e., sequentially rather than using some intelligent selection. This information did not give rise to a duty to investigate Limelight's CDN for infringement at that time.

There is also no evidence that Akamai learned of Limelight's April 2005 deployment of the infringing system or that it should have known of this deploy-

ment.[22] There is evidence only that, Akamai, concerned over Limelight's success in the marketplace, went looking for a way to blunt that competition in mid-2005 and discovered the alleged infringement as a result of its investigation. Prior thereto, it had no notice of any possible infringement and, therefore, no legal duty to investigate.

Finally, even if Akamai's two-year delay in bringing suit was unreasonable, Limelight has not shown that it was unduly prejudiced by that delay. While Gordon testified that Limelight looked at opportunities other than content delivery, and invested in some of them, it invested heavily in content delivery because it believed it would grow as broadband access and media content flourished. He suggested that, had Akamai indicated there might be an infringement issue, Limelight might not have made the investment it did, but did not explain how its decisions would have changed. Indeed, Limelight continued to invest even greater amounts in its content delivery business after the lawsuit was filed. In addition, Limelight did not then, and indeed still does not, believe its system meets, *inter alia*, the "tagging" limitation of the '703 patent or chooses an optimal server as required by the patent. (*See, e.g.*, Docket # 310.) This evidence contradicts Limelight's

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[22] Nor did Limelight present evidence to suggest that detecting infringement of the '703 patent was "easily testable" such that Akamai had a duty to conduct an investigation of any content service provider competitor who conceivably could be using the patented technology, even without some additional knowledge that it used DNS to assign an optimal server. *Wanlass v. GE*, 148 F.3d 1334, 1339-40 (Fed.Cir.1998) ("The frequency with which these types of investigations [into competitor's products] should have occurred is a function of their cost and difficulty.").

assertion that it might have changed course had it been warned of Akamai's claims of infringement. Limelight has failed to meet its burden to show material economic prejudice due to any delay in Akamai's filing suit.

Similarly, Limelight has failed to show that the evidentiary prejudice it alleges would not have occurred if discovery had taken place two years earlier. Lewin died in 2001, Limelight had access to the testimony of the Inventors and Akamai's employees from the two earlier lawsuits and there is no evidence that Judson's notes were lost after the suit was filed.

The defense of laches fails.

b. Equitable Estoppel

The factual question decisive of Limelight's defense of equitable estoppel is whether Akamai intentionally misled Limelight before initiation of this suit as to its position on infringement by Limelight and its plan to enforce its rights under the patent. Given Akamai's aggressive stance against infringers, but its silence as to Limelight's technology, Limelight argues it was reasonable for it to infer that Akamai did not think it infringed.

Akamai states that it had no duty to threaten or warn Limelight prior to suit that it was infringing and therefore there can be no estoppel. Furthermore, even if it had a duty to speak, Limelight can show no prejudice for the same reasons none exists in its laches defense.

Although Limelight asserts that it was lulled into a false sense of security by Akamai's silence during the 2004 negotiations, at that time it used only the round-robin method of selecting a server. At the trial

Akamai did not assert that this method violated the '703 patent, and the jury assessed damages only on Limelight's new system first implemented in the spring of 2005. Thus, Akamai's silence on patent issues, its statements that Limelight's network was very different and Wood's well wishes during the 2004 negotiations cannot be considered conduct intended to mislead Limelight.

By the time of the 2006 negotiations, Akamai clearly had concluded that Limelight's new system infringed its patent, however, it still had no obligation to warn Limelight prior to filing suit. *See Aukerman*, 960 F.2d at 1042 ("Silence alone will not create an estoppel unless there was a clear duty to speak . . . ."). In order to foster reliance, Akamai's silence must "reenforce[] the defendant's inference from the plaintiff's known acquiescence that the defendant will be unmolested." *Id.* Here, negotiations began shortly after Akamai's investigation concluded that Limelight's system was infringing, and Akamai reasonably did not want to destroy the possibility of an acquisition by filing suit. It did, however, hint that Limelight could face litigation if the negotiations failed. During the 2006 negotiations, Wood responded to attempts by Limelight for a higher valuation by pointing out that Akamai had "a very hard patent portfolio, and that anyone operating a Content Delivery Network the way that Limelight was operating its Content Delivery Network certainly came through that patent portfolio." (Trial Tr. Day 3 Sess. 2, 77:5-8, Nov. 14, 2008.) The evidence is clear, and I find that Akamai did not deliberately mislead Limelight into believing it would not be sued for infringement.

At the same time, the evidence does not support Limelight's claim of reliance on Akamai's silence

in making business decisions. By 2005, Limelight already had contractual obligations to provide delivery services, and it believed and continues to believe that it does not perform several of the limitations of the asserted claims. Therefore, Limelight's equitable estoppel defense fails both for lack of misleading conduct by Akamai and lack of detrimental reliance by Limelight.

C. Unclean Hands

Unclean hands is a catch-all equitable remedy that allows a court to refuse to aid "one tainted with inequitableness or bad faith relative to the matter in which he seeks relief, however improper may have been the behavior of the defendant." *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 814, 65 S.Ct. 993, 89 L.Ed. 1381 (1945). The misconduct alleged need not be punishable as a crime, but must "rightfully [] be said to transgress equitable standards of conduct." *Id.* at 815, 65 S.Ct. 993. A finding of unclean hands allows a court to deny relief to the culpable party.

The Supreme Court has found unclean hands and refused to enforce patent rights where a plaintiff settled an interference with a rival and ultimately obtained rights to the rival's invention even though it knew that the original applicant had committed perjury in his application to the PTO (*Precision*, 324 U.S. at 818-19, 65 S.Ct. 993) and where a patent holder used an earlier successful infringement suit as the basis for an injunction in a new suit, even though it had previously concealed evidence of prior use of the invention. *Keystone Driller Co. v. Gen. Excavator Co.*, 290 U.S. 240, 247, 54 S.Ct. 146, 78 L.Ed. 293 (1933). In addition, the Federal Circuit has refused to enforce several other of a plaintiff's patents under

the doctrine where it found inequitable conduct in the prosecution a related patent. *See Consol. Aluminum Corp. v. Foseco Int'l, Ltd.*, 910 F.2d 804, 812 (Fed.Cir.1990).

Limelight bases its unclean hands defense on the same conduct that underlies its inequitable conduct and equitable estoppel defenses, discussed above. It argues that "these are the very types of wrongful actions that bar relief under the doctrine of unclean hands." (Docket # 407, 38.) Even if the evidence supported Limelight's claim, unclean hands is an exceptional remedy reserved only for truly egregious conduct. Here, the evidence does not support the claim of bad faith and unfair conduct.

D. Limelight's Motion for Reconsideration

Limelight moves for reconsideration of the decision denying its motion for JMOL, which focused on the issue of whether it directs or controls every step of the asserted claims of the '703 patent. In particular, Limelight points to the Federal Circuit's opinion in *Muniauction, Inc. v. Thomson Corp.*, released two weeks after I denied its motion for JMOL, to argue that Akamai's proof was insufficient for the jury to find it infringed the patent. 532 F.3d 1318 (Fed.Cir. 2008), *cert. denied*, --- U.S. ---, 129 S.Ct. 1585, 173 L.Ed.2d 677 (2009).

It is undisputed that Limelight does not itself perform every step of the claims found infringed. While it provides its customers with the information necessary for them to modify their web pages or Internet address routing information to utilize its service,[23] the actual modifications are performed by

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[23] In the first method, the customer changes the hostname address of one or more page objects in the initial web page to

the customer, not Limelight. These modifications are required steps in both of the independent claims found infringed by the jury.[24] In addition, the content provider is responsible for providing the initial web page to the end user, therefore, Limelight does not perform the first step of claim 19 as well.[25]

1. *BMC Resources*

At trial, both parties relied on the Federal Circuit's opinion in *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed.Cir.2007), for their proposed jury instructions addressing the issue of direct infringement by multiple parties performing different steps of a single patented process. (*See* Docket # 264, 20; Docket # 267, 11.) In *BMC Resources*, the court reaffirmed the requirement that "[i]nfringement requires . . . a showing that a defendant has practiced each and every element of the claimed invention." 498 F.3d at 1380. However, a party cannot avoid infringement by "contracting out steps of a

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point to Limelight's servers (the "prepend method"). In the second method, the customer adds or changes alias information in its DNS record so that the hostname addresses of the page objects resolve to Limelight's servers without requiring any change to the customer's initial web page (the "CNAME method").

[24] (*See* '703 patent, claim 19 (. . . for a given page normally served from the content provider domain, tagging the embedded objects of the page so that requests for the page objects resolve to the [content delivery service] domain instead of the content provider domain; . . .); *id.*, claim 34 (. . . for a given page normally served from the content provider domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the [content delivery service] domain instead of the content provider domain; . . .).)

[25] (*See* '703 patent, claim 19 (". . . responsive to a request for the given page received at the content provider domain, serving the given page from the content provider domain; . . .").)

patented process to another entity" if it directs or controls the actions of that entity. *Id.* at 1381. The court acknowledged that "requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement." *Id.*

The accused infringer in *BMC Resources* received payment information for a customer transaction from a merchant, forwarded it to a participating debit network who then forwarded it to an affiliated financial institution. The patented method included steps performed by all four parties, the merchant, the defendant payment services provider, the debit network and the financial institution. In addressing the question whether the defendant directed or controlled the steps it did not itself perform, the Federal Circuit concluded that the mere provision by the defendant of data describing the financial transaction to a debit network, "absent any evidence that [defendant] also provides instructions or directions regarding the use of those data," was inadequate to establish that it controlled or directed the activity. *Id.* It also noted the tenuous relationship between the defendant and the financial institutions as weighing against a finding of direction or control, citing the lack of evidence "even of a contractual relationship" between them. *Id.* at 1382.

Thus, *BMC Resources* left open the possibility that direction or control adequate for a finding of direct infringement might exist where an accused infringer provided data to another entity along with instructions or directions regarding the use of those data. Similarly, *BMC Resources* suggested that the existence of a contractual relationship between the accused infringer and the entity performing other steps of the accused method was a significant consideration.

2. The Jury Instructions in the Instant Case

At the conclusion of the evidence in the instant case, I instructed the jurors that if they found that use of Limelight's service infringed the asserted claims then:

> [t]he second issue is that I think it is not disputed that Limelight does not make [the prepend method] substitution. The substitution is made by the content provider. That raises the question whether the content provider, when carrying out this step, acts under the direction and control[26] of Limelight such that Limelight can properly be deemed to be the one to do it. And you heard argument about that just before we broke.
>
> If Limelight did not direct and control this action, then this substitution cannot be attributed to Limelight. And Limelight cannot, therefore, infringe. And in the CNAME method, it's similar, but rather than modifying the object on the page served, the content provider modifies its DNS system so that the object is retrieved from Limelight's content delivery network by means of an alias of the hostname.
>
> Again, the first [question] is whether this method of getting to the Defendant content delivery network infringes any claim, and the second question, again, is whether the content provider acted under the direction and control of Limelight. And again, if Limelight directed and controlled this action, it was effectively the action of Limelight, and then it

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[26] I initially instructed the jury that Limelight must both direct and control the actions of the content provider. Upon conferring with the counsel after this charge, I issued a correcting instruction as discussed infra.

> may be found responsible. But if Limelight did not direct and control, both are necessary, the modification at the content provider, then it cannot be deemed to infringe.
>
> Do you understand what I'm trying to tell you? It's like one acting for somebody else and controlling that person, then you can be responsible. But if the other person, if you do not control what the other person does, then you are not responsible for what the other person does, not liable for what the other person does.
>
> So, you should review the evidence, decide how the Limelight systems work, how does the interaction with the content provider work, and, specifically, does Limelight direct and control the modifications or does the content provider carry out these tasks entirely independently. Then compare each of the mechanisms with what is claimed in the certain claims and, specifically, does either of the Defendant's content delivery methods practice each element of whichever claim you are considering.

(Trial Tr. Day 13 Sess. 2, 20-22, Feb. 28, 2008.)

Upon conferring with the parties after this instruction, I issued the following correction:

> One of those [things I didn't get right] is that I had told you with respect to activities that Limelight says were really done by somebody else, namely the content provider, that such activities are chargeable to Limelight if Limelight directed and controlled this content provider in the example we're using. I was wrong on that. It is either direct or control, control or direct; it doesn't have to be both.

(*Id.* at 52-53.)

Although the jury returned a finding of infringement on these instructions, Limelight moved for JMOL arguing that there was "no substantial evidence" that it "directs or controls another party to perform" several steps of the asserted claims. (Docket # 310, 3-4.) I denied the motion because, unlike in *BMC Resources*, here there was evidence that not only was there a contractual relationship between Limelight and its customers, but that it provided those customers with instructions explaining how to utilize its content delivery service. Therefore, I found that there was sufficient evidence for the jury to have found direction or control. Limelight now moves for reconsideration of that decision, arguing that under the Federal Circuit's subsequent decision in *Muniauction* "an accused infringer's control over access to an Internet-based system, coupled with instructions to customers on how to use that system, is insufficient to establish direct infringement." (Docket # 377, 2.) It asserts that *Muniauction* requires a showing that it is vicariously liable for the act committed by others in order for a jury to find it directly infringed Akamai's patented method.

3. *Muniauction*

In *Muniauction*, decided July 14, 2008, MuniAuction, Inc. ("MuniAuction"), the patent owner, brought an action against defendant Thompson for infringement of a patent claiming a method of auctioning municipal bonds using a web browser. The preamble of claim 1 describes an auction system consisting of a "bidder's computer [] located remotely from [the bond] issuer's computer," with the two computers connected by an electronic network such as the Internet. *Muniauction*, 532 F.3d at 1322 (quoting United States Patent No. 6,161,099). The first step of

the method requires "inputting data associated with at least one bid . . . into said bidder's computer . . . ." *Id.* The court noted that this step is completed by the bidder, while "at least a majority of the remaining steps are performed by [defendant's] system." *Id.* at 1328-29. Therefore, the issue was whether the actions of the bidder could be combined with those of the defendant to give rise to a finding of direct infringement by the latter. Referencing its earlier decision in *BMC Resources*, the court explained

> where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises "control or direction" over the entire process such that every step is attributable to the controlling party, i.e., the "mastermind." At the other end of this multi-party spectrum, mere "arms-length cooperation" will not give rise to direct infringement by any party.

Id. at 1329 (internal citations omitted). In applying this standard to the facts of the case, the Federal Circuit concluded that

> [u]nder *BMC Resources*, the control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method. In this case, Thomson neither performed every step of the claimed methods nor had another party perform steps on its behalf, and Muniauction has identified no legal theory under which Thomson might be vicariously liable for the actions of the bidders. Therefore, Thomson does not infringe the asserted claims as a matter of law.

Id. at 1330 (internal citation omitted).

a. Vicarious Liability

Thus, the first question posed by the Federal Circuit's decision in *Muniauction* is the following: is vicarious liability a necessary condition to satisfy *BMC Resources*' control or direction standard, as Limelight asserts, or is it merely a condition sufficient to find infringement within the spectrum of possible interactions ranging from an arms-length agreement to "contracting out steps of a patented process to another entity?" *BMC Resources*, 498 F.3d at 1381. I conclude that the court intended the latter. First, in *Muniauction*, the court refers to vicarious liability as an alternative theory of liability to having "another party perform steps on its behalf." 532 F.3d at 1330. Second, in *BMC Resources*, the court cautioned that "a defendant cannot [] avoid liability for direct infringement by having someone else carry out one or more of the claimed steps on its behalf." 498 F.3d at 1379. Were vicarious liability a requirement for a finding of joint infringement, then an entity could use a patented method with impunity by hiring an independent contractor to perform one or more steps of that method. *See, e.g., Graham v. Malone Freight Lines, Inc.*, 314 F.3d 7, 15 (1st Cir. 1999) ("Employers are generally not liable for the negligent acts of the independent contractors they hire.") Yet in *BMC Resources*, the court explicitly stated that one cannot avoid infringement by "contracting out steps of a patented process to another entity." 498 F.3d at 1381. There is no indication that the court intended to make a major change to this jurisprudence in its *Muniauction* decision.[27]

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[27] Nor was *Muniauction* decided *en banc*, a requirement to overruling a prior decision. *See El-Shifa Pharm. Indus. Co. v. United States*, 378 F.3d 1346, 1352 (Fed.Cir.2004).

While a showing of vicarious liability is sufficient to find direction or control, it is not a necessary requirement. Therefore, the fact that Limelight is not vicariously liable for the actions of its customers does not end the inquiry.

b. The Significance of *Muniauction*

However, *Muniauction* did establish a new data point on the continuum between an arms-length relationship and vicarious liability for determining direction or control. In *BMC Resources*, as discussed *supra*, the court's reasoning left open the possibility that evidence of direction or control might be found from the provision of "instructions or directions" regarding the use of the data the defendant provided to the debit networks. 498 F.3d at 1381. It similarly suggested that the lack of a contractual relationship between the defendant and the financial institutions was relevant in finding a lack of direction or control of the latter's actions by the former. Indeed, in opposing Limelight's original motion for JMOL, that is exactly how Akamai summarized the law on joint infringement:

> The *BMC* decision and subsequent decisions of several District Courts identify factors that can support a finding of direction and [sic] control: (1) a contractual relationship between the accused party and the third party performing one or more steps of the claim; and (2) the accused infringer's provision of instructions, or directions to the third party that direct the third party to perform one or more steps of the claim.

(Docket # 343, 31 (citations omitted).)

In *Muniauction*, however, the court explicitly held "[t]hat Thomson controls access to its system and instructs bidders on its use is not sufficient to incur

liability for direct infringement." 532 F.3d at 1330. It also described as not "relevant to whether Thomson satisfies the 'control or direction' standard of *BMC Resources*," a jury instruction which directed the jurors to ask whether "there one party teaching, instructing, or facilitating the other party's participation in the electronic auction process." *Id.* at 1331. While the *Muniauction* decision makes no explicit mention of a contract between Thompson and its customers, it quotes the lower court's finding that the defendant charges the bidders a fee for its services. *See id.* at 1329 (quoting *Muniauction, Inc. v. Thomson Corp.*, 502 F.Supp.2d 477, 492 (W.D.Pa.2007)). In addition, MuniAuction's brief to the Federal Circuit highlighted the contractual relationship between the parties as a factor distinguishing Thompson's actions from those of the defendant in *BMC Resources*. (*See* Docket # 378, Ex. D, 26; *see also id.* at 13 (describing Thompson's contracts with bidders and issuers).) Thus, *Muniauction* establishes that direction or control requires something more than merely a contractual agreement to pay for a defendant's services and instructions or directions on how to utilize those services.

Limelight therefore argues that, under *Muniauction*, its "control over access to an Internet-based system, coupled with instructions to customers on how to use that system, is *insufficient* to establish infringement." (Docket # 378, 2 (emphasis in original).) It asserts that its content delivery services are "remarkably similar" to the auction bidding system deemed not infringed by Thompson in *Muniauction* such that that case's holding should be binding on the facts in this case. (*Id.* at 4-5.)

Akamai attempts to distinguish *Muniauction*, arguing that "[t]he facts of this case are grossly different" because once Limelight's customers "sign Limelight's contract, [they] are under a contractual obligation to—implement Limelight's content delivery method by serving pages that include a hostname supplied by Limelight to the customer." (Docket # 379, 3-4.) However, this formulation misstates the basis of the contract between Limelight and its customers. Limelight does not "contract[] out steps of a patented process to another entity." *BMC Resources*, 498 F.3d at 1381. Rather, like Thompson, the fundamental agreement between Limelight and its customers is the provision of a service in exchange for payment. Thompson provides its customers with the ability to bid on municipal bonds, while Limelight promises to serve its customers' page objects from its network. In each case, the customer must perform a step of the patented method in order to obtain the offered service, but the consideration offered by the customer is in the form of financial renumeration. Akamai's argument—that direction or control is established by the existence of a contractual relationship in which one entity incidentally has to perform a step of a patented process to receive the benefits of the contract—runs counter to the Federal Circuit's holding that "mere 'arms-length cooperation' will not give rise to direct infringement by any party." *Muniauction*, 532 F.3d at 1329; *see also BMC Resources*, 498 F.3d at 1381 ("[T]he standard requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement."). Therefore, while *a contract to perform steps of a patented process* on the mastermind's behalf cannot shield the mastermind from liability for direct

infringement, the existence in the instant case of a contract for services does not give rise to direction or control, even if the customer must perform one or more steps of the patented process in order to receive the benefits of those services.

Akamai further argues that because "[t]he customer must use the Limelight-supplied hostname" as instructed by Limelight in order to obtain its content delivery services, and because "[t]here is no other purpose for providing a hostname to the customer," there was sufficient evidence for the jury to find direction or control of the tagging step. (Docket # 379, 3-4 (emphasis in original).) However, MuniAuction unsuccessfully made a similar argument to the Federal Circuit. It argued that because Thompson supplies a bidder ID and password to its customers and instructs its customers as to their use, and because that ID and password are necessary in order to access its auction system, "Thompson controls the [claimed] inputting step." (Docket # 378, Ex. D, 11-12.) Nevertheless, the court held that controlling access to its system and instructing its customers on its use was not enough to evince direction or control.[28]

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[28] This result is likely to make unenforceable a number of patents claiming similar methods in which a remote user contacts a central server. The Federal Circuit implicitly acknowledged as much in *BMC Resources* by noting:

> The concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party. *See* Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 272-75 (2005). In this case, for example, BMC could have drafted its claims to focus on one entity. The steps of the claim might have featured references to a single party's supplying or receiving each element of the claimed process. However,

I find no material difference between Limelight's interaction with its customers and that of Thompson in *Muniauction*. There is no suggestion that the agreements between Limelight and its customers for content delivery services were other than the result of an arms-length contract negotiation. Akamai has identified no legal theory under which Limelight might be vicariously liable for the actions of the content providers. The first step of claim 19 of the '703 patent, serving the initial web page from the content provider's domain, is performed by the content provider whether it subscribes to Limelight's services or not. Limelight's customers, following Limelight's instructions, do modify the embedded

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BMC chose instead to have four different parties perform different acts within one claim. BMC correctly notes the difficulty of proving infringement of this claim format. Nonetheless, this court will not unilaterally restructure the claim or the standards for joint infringement to remedy these ill-conceived claims.

498 F.3d at 1381.

In its petition for a writ of certiorari, MuniAuction raised a similar concern. It argued that the Federal Circuit's holding "threatens drastically to change the meanings of the claims of hundreds or thousands of patents" and warned that "*any* claim that requires as one method step that a computer or cell phone must be activated by a user, even though that step is controlled by a web site operator or a carrier, can no longer be enforced against infringers." On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit at 21, 25, *Muniauction, Inc., v. Thomson Corp.*, No. 08-847 (U.S. Dec. 22, 2008). *See also id.* at 35 (disputing the Federal Circuit's suggestion that the problem can be avoided by proper claim drafting and noting that in any event, it "generally cannot be implemented on issued patents already in litigation"). Nevertheless, the Supreme Court denied certiorari. *See Muniauction, Inc. v. Thomson Corp.*, --- U.S. ---, 129 S.Ct. 1585, 173 L.Ed.2d 677 (2009).

objects of their web pages or alter their DNS records so that requests for the objects resolve to the content delivery service domain, rather than the content provider domain, in order to take advantage of Limelight's service. However, this step is performed by Limelight's customers not because they are contractually obligated to do so; rather, they do so because they wish to avail themselves of Limelight's service. Under *Muniauction*, this is insufficient to establish the requisite direction or control by Limelight of its customers necessary to find it liable for direct infringement.

Therefore, Limelight's motion for reconsideration is allowed and, based on the standard set forth in *Muniauction*, Limelight's motion for JMOL of non-infringement is allowed.

IV. Conclusion

For the reasons set forth, Limelight's Motion to Admit Trial Exhibit 1228 (Docket # 399) is DENIED. Limelight's Motion for Leave to File a Reply (Docket # 413) is ALLOWED. Limelight's Motion for Reconsideration of the Court's Denial of its Motion for JMOL Based on New Case Law (Docket # 377) is ALLOWED.

The parties shall submit a proposed form of judgment within 20 days.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 2009-1372, 2009-1380, 2009-1416, 2009-1417

AKAMAI TECHNOLOGIES, INC.,
Plaintiff-Appellant,

AND

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,
Defendant-Cross Appellant.

Apr. 20, 2011

Before RADER, Chief Judge, NEWMAN, LOURIE, BRYSON, GAJARSA, LINN, DYK, PROST, MOORE, O'MALLEY, and REYNA, Circuit Judges.

ORDER

PER CURIAM.

A combined petition for panel rehearing and rehearing en banc was filed by Plaintiff-Appellant Akamai Technologies, Inc. and a response thereto was invited by the court and filed by Defendant-Cross-Appellant.

The petition for rehearing was considered by the panel that heard the appeals, and thereafter the petition for rehearing en banc and the response were

referred to the circuit judges who are authorized to request a poll of whether to rehear the appeals en banc. A poll was requested, taken, and the court has decided that the appeals warrant en banc consideration.

Upon consideration thereof,

IT IS ORDERED THAT:

(1) The petition of Plaintiff-Appellant Akamai Technologies, Inc. for panel rehearing is denied.

(2) The petition of Plaintiff-Appellant Akamai Technologies, Inc. for rehearing en banc is granted.

(3) The court's opinion of December 20, 2010 is vacated, and the appeals are reinstated.

(4) The parties are requested to file new briefs addressing the following issue: If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?

(5) These appeals will be heard en banc on the basis of the original filed briefs, additional briefing ordered herein, and oral argument. An original and thirty copies of all originally-filed briefs shall be filed within 20 days from the date of filing of this order. An original and thirty copies of new en banc briefs shall be filed, and two copies of each en banc brief shall be served on opposing counsel. Appellants' en banc brief is due 45 days from the date of this order. The en banc response brief is due within 30 days of service of the appellants' new en banc brief, and the reply brief within 15 days of service of the response brief. Briefs shall adhere to the type-volume limitations set forth in Federal Rule of Appellate Procedure 32 and Federal Circuit Rule 32.

(6) Briefs of amici curiae will be entertained, and any such amicus briefs may be filed without consent and leave of court but otherwise must comply with Federal Rule of Appellate Procedure 29 and Federal Circuit Rule 29.

(7) Oral argument will be held at a time and date to be announced later.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 2009-1372, 2009-1380, 2009-1416, 2009-1417

AKAMAI TECHNOLOGIES, INC.,
Plaintiff-Appellant,

AND

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,
Defendant-Cross Appellant.

[filed Sept. 27, 2012]

Appeals from the United States District Court for the District of Massachusetts in case nos. 06-CV-11109 and 06-CV-11585, Judge Rya W. Zobel.

ON MOTION

ORDER

Limelight Networks, Inc. ("Limelight") moves for rehearing and/or clarification of the en bane court's decision issued on August 31, 2012. Akamai Technologies, Inc. ("Akamai") responds.

Upon consideration thereof,

IT IS ORDERED THAT:

(1) The court grants Limelight's request to reinstate the portions of the panel's judgment and

opinion affirming the district court's entry of judgment of noninfringement of the '645 and '413 patents. See Akamai Technologies, Inc. v. Limelight Networks, Inc., 629 F.3d 1311, 1322-31 (Fed. Cir. 2010).

(2) The court denies Limelight's request to remand this case to the panel to address two additional issues raised in Limelight's motion: whether Akamai waived its right to assert inducement in the district court; and whether there are alternative grounds to support the district court's judgment of noninfringement of the '703 patent. If Limelight wishes to pursue those issues, they should be presented in the first instance to the district court on remand.

(3) The motion in all other respects is denied.

FOR THE COURT

September 27, 2012
Date

/s/ JAN HORBALY / LB
Jan Horbaly
Clerk

cc: Donald R. Dunner, Esq.
Robert S. Frank, Jr., Esq.
Aaron M. Panner, Esq.
All amici curiae counsel

STATUTORY PROVISIONS INVOLVED

Section 271 of the Patent Act, 35 U.S.C. § 271, provides:

§ 271. Infringement of patent

(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute

contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement; (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.

(e)(1) It shall not be an act of infringement to make, use, offer to sell, or sell within the United States or import into the United States a patented invention (other than a new animal drug or veterinary biological product (as those terms are used in the Federal Food, Drug, and Cosmetic Act and the Act of March 4, 1913) which is primarily manufactured using recombinant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques) solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products.

(2) It shall be an act of infringement to submit—

(A) an application under section 505(j) of the Federal Food, Drug, and Cosmetic Act or described in section 505(b)(2) of such Act for a drug claimed in a patent or the use of which is claimed in a patent,

(B) an application under section 512 of such Act or under the Act of March 4, 1913 (21 U.S.C. 151-158) for a drug or veterinary biological product which is not primarily manufactured using recom-

binant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques and which is claimed in a patent or the use of which is claimed in a patent, or

(C)(i) with respect to a patent that is identified in the list of patents described in section 351(*l*)(3) of the Public Health Service Act (including as provided under section 351(*l*)(7) of such Act), an application seeking approval of a biological product, or

(ii) if the applicant for the application fails to provide the application and information required under section 351(*l*)(2)(A) of such Act, an application seeking approval of a biological product for a patent that could be identified pursuant to section 351(*l*)(3)(A)(i) of such Act,

if the purpose of such submission is to obtain approval under such Act to engage in the commercial manufacture, use, or sale of a drug, veterinary biological product, or biological product claimed in a patent or the use of which is claimed in a patent before the expiration of such patent.

(3) In any action for patent infringement brought under this section, no injunctive or other relief may be granted which would prohibit the making, using, offering to sell, or selling within the United States or importing into the United States of a patented invention under paragraph (1).

(4) For an act of infringement described in paragraph (2)—

(A) the court shall order the effective date of any approval of the drug or veterinary biological product involved in the infringement to be a date which

is not earlier than the date of the expiration of the patent which has been infringed,

(B) injunctive relief may be granted against an infringer to prevent the commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug, veterinary biological product, or biological product,

(C) damages or other monetary relief may be awarded against an infringer only if there has been commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug, veterinary biological product, or biological product, and

(D) the court shall order a permanent injunction prohibiting any infringement of the patent by the biological product involved in the infringement until a date which is not earlier than the date of the expiration of the patent that has been infringed under paragraph (2)(C), provided the patent is the subject of a final court decision, as defined in section 351(k)(6) of the Public Health Service Act, in an action for infringement of the patent under section 351(*l*)(6) of such Act, and the biological product has not yet been approved because of section 351(k)(7) of such Act.

The remedies prescribed by subparagraphs (A), (B), (C), and (D) are the only remedies which may be granted by a court for an act of infringement described in paragraph (2), except that a court may award attorney fees under section 285.

(5) Where a person has filed an application described in paragraph (2) that includes a certification under subsection (b)(2)(A)(iv) or (j)(2)(A)(vii)(IV) of section 505 of the Federal Food, Drug, and Cosmetic

Act (21 U.S.C. 355), and neither the owner of the patent that is the subject of the certification nor the holder of the approved application under subsection (b) of such section for the drug that is claimed by the patent or a use of which is claimed by the patent brought an action for infringement of such patent before the expiration of 45 days after the date on which the notice given under subsection (b)(3) or (j)(2)(B) of such section was received, the courts of the United States shall, to the extent consistent with the Constitution, have subject matter jurisdiction in any action brought by such person under section 2201 of title 28 for a declaratory judgment that such patent is invalid or not infringed.

(6)(A) Subparagraph (B) applies, in lieu of paragraph (4), in the case of a patent—

(i) that is identified, as applicable, in the list of patents described in section 351(*l*)(4) of the Public Health Service Act or the lists of patents described in section 351(*l*)(5)(B) of such Act with respect to a biological product; and

(ii) for which an action for infringement of the patent with respect to the biological product—

(I) was brought after the expiration of the 30-day period described in subparagraph (A) or (B), as applicable, of section 351(*l*)(6) of such Act; or

(II) was brought before the expiration of the 30-day period described in subclause (I), but which was dismissed without prejudice or was not prosecuted to judgment in good faith.

(B) In an action for infringement of a patent described in subparagraph (A), the sole and exclusive remedy that may be granted by a court, upon a finding that the making, using, offering to sell, selling, or

importation into the United States of the biological product that is the subject of the action infringed the patent, shall be a reasonable royalty.

(C) The owner of a patent that should have been included in the list described in section 351(*l*)(3)(A) of the Public Health Service Act, including as provided under section 351(*l*)(7) of such Act for a biological product, but was not timely included in such list, may not bring an action under this section for infringement of the patent with respect to the biological product.

(f)(1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(g) Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product. A product which is made by a patented process will, for purposes of this title, not be considered to be so made after—

(1) it is materially changed by subsequent processes; or

(2) it becomes a trivial and nonessential component of another product.

(h) As used in this section, the term "whoever" includes any State, any instrumentality of a State, and any officer or employee of a State or instrumentality of a State acting in his official capacity. Any State, and any such instrumentality, officer, or employee, shall be subject to the provisions of this title in the same manner and to the same extent as any nongovernmental entity.

(i) As used in this section, an "offer for sale" or an "offer to sell" by a person other than the patentee, or any designee of the patentee, is that in which the sale will occur before the expiration of the term of the patent.

Supreme Court of the United States
Office of the Clerk
Washington, DC 20543-0001

WILLIAM K. SUTER
Clerk of the Court
(202) 479-3011

November 15, 2012

Mr. Aaron M. Panner
Kellogg, Huber, Hansen, Todd,
Evans & Figel, P.L.L.C.
1615 M Street, N.W., Suite 400
Washington, DC 20036

Re: Limelight Networks, Inc.
v. Akamai Technologies, Inc., et al.
Application No. 12A482

Dear Mr. Panner:

The application for an extension of time within which to file a petition for a writ of certiorari in the above-entitled case has been presented to The Chief Justice, who on November 15, 2012 extended the time to and including December 28, 2012.

This letter has been sent to those designated on the attached notification list.

Sincerely,

William K. Suter, Clerk
by /s/ JACOB C. TRAVERS
Jacob C. Travers
Case Analyst

[attached notification list omitted]

OPPOSITION BRIEF

RECORD
AND
BRIEFS

Supreme Court, U.S.
FILED
APR 3 - 2013
OFFICE OF THE CLERK

No. 12-786

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF IN OPPOSITION

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April 3, 2013

QUESTION PRESENTED

The question on which Limelight Networks, Inc. ("Limelight") seeks certiorari mischaracterizes the Federal Circuit's holding below in *Akamai* by asserting that the Federal Circuit held that a party can be liable for induced infringement under 35 U.S.C. § 271(b) where "no one" directly infringes the claim. This assertion is not correct. In *Akamai*, the en banc Federal Circuit explicitly held that a determination of induced infringement requires a showing of direct infringement. Contrary to Limelight's assertion, the en banc court merely overruled a portion of a recent 2007 decision, which incorrectly held that, for a party to be liable for induced infringement, some *single entity* must be liable for direct infringement under 35 U.S.C. § 271(a). Properly read, *Akamai* merely corrected the "bizarre result" created by this recent precedent, which allowed a party that induced infringement of a method claim to escape all liability for infringement so long as it itself performed one step of the method. Accordingly, a more accurate representation of the question presented is:

Whether the Federal Circuit correctly held that a determination of induced infringement under § 271(b) does not require a predicate finding that a single entity was liable for infringement under § 271(a), under circumstances where all of the steps of a method claim are performed, but the inducer performs some steps itself and induces another to perform the remaining steps?

PARTIES TO THE PROCEEDING

The caption identifies all parties.

CORPORATE DISCLOSURE STATEMENT

Akamai Technologies, Inc. ("Akamai") and the Massachusetts Institute of Technology ("MIT") have no parent corporations, and no publicly held company owns 10 percent or more of their stock.

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BRIEF IN OPPOSITION

The petition fails to satisfy the criteria for a grant of certiorari and should be denied.

Initially, certiorari should be denied because the decision is not ripe for review by this Court. The Federal Circuit has reversed and remanded the case for further proceedings under 35 U.S.C. § 271(b).[1] Thus, this case is at an interlocutory stage with an incomplete record related to the very issue on which Limelight seeks certiorari. Denial of certiorari at this stage will allow that record to be developed and will allow the current case to be decided based on an actual application of the Federal Circuit's en banc *Akamai* decision to the facts of the case. Further, additional cases may be decided, providing further context to assess the actual impact, if any, of *Akamai*.

Moreover, certiorari is unwarranted because *Akamai* did not radically change existing law to allow liability for induced infringement where there is no direct infringement, as Limelight asserts. Instead, the Federal Circuit merely corrected an error recently and improperly created by a series of Federal Circuit cases beginning in 2007.

These incorrect cases allowed an inducer to avoid *all* liability for infringement simply because the inducer participated in the performance of a claimed method in addition to inducing the infringement.

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[1] The text of the infringement statute is set forth at App. 200a-206a.

There is no rational legal principal or policy under the patent law that supports such an outcome.

Indeed, the entire Federal Circuit agreed there are certain circumstances where infringement of a method claim can result from the joint activities of two or more parties. The dissenting judges, and Limelight, however, would limit those circumstances to situations where there is either an agency relationship or binding contract between the parties, or a joint enterprise. The issue decided by *Akamai* was accordingly where to set the proper boundary for finding joint liability. After careful consideration, *Akamai* set the boundary by recognizing liability where a party induces infringement. *Akamai* thus properly balances competing themes of protecting patentees from intentional infringement while providing a minimally intrusive and flexible approach to joint infringement consistent with the plain language of the statute, existing precedent, and the policy underlying the Patent Act.

Moreover, an alleged intra-circuit conflict is alone an insufficient reason to grant certiorari where the Federal Circuit merely corrected a recent error in its own precedent concerning § 271(b).

Finally, even if this Court were to accept Limelight's assertions that liability under § 271(a) must be established before imposing liability under § 271(b), Limelight should be found liable under § 271(a) since two or more parties (here Limelight and its customers) working together can jointly infringe a process patent under § 271(a).

For all these reasons, discussed further below, this case is a poor vehicle for this Court's review, and certiorari should be denied.

BACKGROUND

Akamai's commercial origins date back to the late 1990s inside the halls of MIT. Starting as an academic project, Tom Leighton, professor and head of MIT's Computer Science and Artificial Intelligence Laboratory, and the late Daniel Lewin discovered a way to solve a persistent problem involving Internet congestion. A263; A333-37. Specifically, in situations involving periods of substantially increased demand for a resource on the Internet, like a web page, few could access it because the requests overloaded the content server. App. 102a-103a. To solve this problem, Leighton and Lewin devised a new method for storing and delivering web page content that ensures access even during periods of high demand. A267, 2:53-57; A339; A342-43. The invention allows an Internet Content Provider, such as CNN or Yahoo, to offload requests for Internet content to a third party's "content delivery network" or "CDN."[2] App. 103a-104a; A343-44. Leighton and Lewin founded Akamai to commercialize this invention, which continues to serve as a basis for the company's core business. A337. Although Limelight attempts to minimize the importance of Akamai's invention (Pet. 2-3), the invention transformed how

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[2] *See* Akamai's Conditional Cross-Petition, No. 12-960, for a detailed statement of the technology. Cross-Pet. 4-10.

web traffic was controlled and is important technology still being used today (App. 103a).

U.S. Patent No. 6,108,703 ("the '703 patent") embodies aspects of Akamai's invention. App. 103a-104a; A263-76. The claims in the '703 patent cover processes in which certain web page content is tagged so that the content may be served by the CDN. App. 104a-105a. Independent claim 34 requires a "tagging" step, in which the content to be served by the CDN is tagged. App. 105a-106a. Independent claim 19 requires the content to be tagged and a web page containing the tag to be served. App. 105a.

After Akamai's significant commercial success with this invention, Limelight, Akamai's direct CDN-competitor, sought to exploit Akamai's invention. In so doing, each of the patented steps was carried out, albeit not by the *same* party. Limelight performed most steps of the asserted claims while its customers (following explicit directions and using specialized data tags provided by Limelight) performed the remaining steps.

Akamai filed suit against Limelight, asserting that Limelight infringed, under § 271(a) and (b), the '703 patent and two additional patents not involved in the petition. Because the '703 patent claim steps were collectively performed by Limelight *and* its customers, Limelight argued it was not liable for direct infringement. App. 181a-182a.

At the time of the trial, then-existing Federal Circuit law allowed a party to prove joint infringement in cases such as this, where the accused joint infringer actually performed steps of a patented

method, under § 271(a), only by showing that the accused joint infringer performed some steps of the claim while directing or controlling, or contracting with, another party in the performance of the remaining steps. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007). Akamai thus tried the case based on the direction or control/contract theory under § 271(a) and withdrew its claim of induced infringement.

After a three-week trial, the jury, instructed under *BMC*'s direction or control/contract standard, returned a verdict of infringement and awarded Akamai $45.5 million in damages. App. 138a. Subsequently, the Federal Circuit issued its opinion in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), where the court found no joint infringement of a patented electronic method for conducting auctions of financial instruments where the auctioneer and bidder collectively performed the steps of the method, *id.* at 1330. The district court, on JMOL, analogized the facts of *Muniauction* to that of this case and reversed the jury's finding of infringement. App. 193a-194a.

On appeal, a Federal Circuit panel affirmed the JMOL of noninfringement. App. 135a. The panel created a bright-line rule, holding that direct infringement of a method claim under § 271(a) requires every step of a method to be performed by a *single entity or that entity's agent* or a contract between the parties compelling performance of the steps (the so-called "single-entity rule"). App. 111a-112a. Because Limelight's customers were not its agents and the contract between Limelight and its

customers did not require the customers to perform the tagging step unless the customers wished to use Limelight's service, the panel held Limelight did not directly infringe the claims of the '703 patent. App. 116a-117a.

Following this decision, Akamai petitioned for rehearing en banc, challenging the single-entity rule that required an agency or contract relationship. On April 20, 2011, the Federal Circuit granted Akamai's petition for rehearing en banc and vacated the panel decision. App. 195a-197a. The question posed by the court was:

> If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?

App. 196a.

McKesson Technologies, Inc. ("McKesson") and Epic Systems Corp. ("Epic") were parties to a separate appeal in the Federal Circuit, *McKesson Technologies, Inc. v. Epic Systems Corp.*, No. 2010-1291. After granting en banc rehearing in *Akamai*, the court granted en banc rehearing in *McKesson* and consolidated the cases for purposes of the en banc rehearing. The additional questions posed by the court in *McKesson* were:

> 1. If separate entities each perform separate steps of a method claim, under what circumstances, if any, would either entity or any third party be liable for inducing infringement or for contributory

> infringement? *See Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1656 (Fed. Cir. 1983).
>
> 2. Does the nature of the relationship between the relevant actors—e.g., service provider/user; doctor/patient—affect the question of direct or indirect infringement liability?

463 F. App'x 906, 907 (Fed. Cir. 2011) (per curiam).

The Federal Circuit issued a single opinion for both cases on August 31, 2012. App. 1a-99a. A per curiam majority of the court (Chief Judge Rader and Judges Lourie, Bryson, Moore, Reyna, and Wallach) held that the cases should be resolved by applying the doctrine of induced infringement under § 271(b). The court explained that, in cases such as *Akamai*, indirect infringement could occur as long as *all* steps of a claimed method are performed (i.e., there is direct infringement), but did not require that a *single party* be liable under § 271(a) in order to find induced infringement. App. 3a. The court declined to rule on the issue of joint infringement under § 271(a). App. 6a.

This holding expressly overruled a portion of the *BMC* case, and implicitly overruled the *Muniauction* case that had relied on this portion of *BMC*. Specifically, in *BMC*, the court stated:

> When a defendant participates in or encourages infringement but does not directly infringe a patent, the normal recourse under the law is for the court to apply the standards for liability under indirect infringement.

> Indirect infringement requires, as a predicate, a finding that *some party amongst the accused actors* has committed the *entire* act of direct infringement.

BMC, 498 F.3d at 1379 (emphases added).

In addressing why this statement in *BMC* was being overruled, the Federal Circuit pointed to its faulty legal premise regarding the law of induced infringement. App. 8a-9a. The court noted that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer." App. 9a.

In reaching its conclusion, the court analyzed the precedents, the text of the infringement statute, the legislative history, principles of law with similar inducement statutes, and policy concerns. The court noted that "[a]t the end of the day, we are persuaded that Congress did not intend to create a regime in which parties could knowingly sidestep infringement liability simply by arranging to divide the steps of a method claim between them." App. 29a.

Because the Federal Circuit reversed the portion of *BMC* that would have prevented Akamai from asserting an induced infringement claim at trial, the court determined that "Akamai should be given the benefit of [the] court's ruling disapproving the line of divided infringement cases that the district court felt compelled to follow." App. 30a. The court stated:

> Limelight would be liable for inducing infringement if the patentee could show that

> (1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content providers in fact performed that final step.

Id. The court thus reversed and remanded the case for further proceedings. *Id.*

Writing separately, Judge Newman agreed the panels' decisions in both cases should be reversed. App. 61a-68a. Judge Newman, however, dissented from the court's determination of the cases under inducement law. App. 31a. Instead, Judge Newman would have rejected the single-entity rule and found Limelight liable under § 271(a). App. 31a-32a. Judge Newman argued the court should "restore direct infringement to its status as occurring when all of the claimed steps are conducted, whether by a single entity or in interaction or collaboration." App. 68a.

A separate dissent, authored by Judge Linn and joined by Judges Dyk, Prost, and O'Malley, argued that induced infringement under § 271(b) requires a separate single entity be found liable for direct infringement under § 271(a). App. 95a-96a.

Limelight filed a petition for writ of certiorari, No. 12-786, on December 28, 2012, which was docketed on January 2, 2013.[3]

On February 1, 2013, Akamai filed a Conditional Cross-Petition, No. 12-960. Akamai believes that the Court should deny Limelight's petition for certiorari. Should the Court grant Limelight's petition, however, it should also grant Akamai's Conditional Cross-Petition and consider the full scope of joint infringement. Akamai asserts that direct infringement may be found under § 271(a) where there is a contract between the parties, a party directs or controls others who perform steps of a patented process, or where parties act in concert to perform the steps of a patented process, but that a single-entity rule requiring an agency or contract relationship under § 271(a) is too limiting and contrary to the statute and precedent. Moreover, coupling § 271(a) to § 271(b) would be an alternative ground supporting judgment in Akamai's favor.

REASONS FOR DENYING THE WRIT

I. SUPREME COURT REVIEW OF THIS CASE IS PREMATURE

This case is not ripe for review by this Court. The Federal Circuit's en banc decision did not finally resolve the infringement issue between the parties, but reversed and remanded the case to the district

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[3] Epic filed a separate petition for writ of certiorari, No. 12-800. The case subsequently settled and the petition was dismissed on March 11, 2013.

court for further proceedings relating to the inducement issue. App. 30a. While the facts concerning direct infringement in this case may be undisputed, there are additional facts concerning inducement that need further development on remand. In particular, Akamai has been tasked with demonstrating (1) Limelight knew of Akamai's patent; (2) it performed all but one of the steps of the method claimed in the patent; (3) it induced the content providers to perform the final step of the claimed method; and (4) the content providers in fact performed that final step. *Id.* The Court accordingly does not have the benefit of a full and complete record in this case. This case has *not* been resolved under § 271(b), and there is no final judgment in the case.

Under comparable circumstances, this Court has explained that certiorari is not proper. *See, e.g., Bhd. of Locomotive Firemen & Enginemen v. Bangor & Aroostook R.R. Co.*, 389 U.S. 327, 328 (1967) ("[B]ecause the Court of Appeals remanded the case, it is not yet ripe for review by this Court."); *see also, e.g., Hamilton-Brown Shoe Co. v. Wolf Bros. & Co.*, 240 U.S. 251, 258 (1916) (noting that the interlocutory nature of the judgment was "a fact that of itself alone furnished sufficient ground for the denial of the application"); *Va. Military Inst. v. United States*, 508 U.S. 946 (1993) (Scalia, J., respecting denial of certiorari) ("We generally await final judgment in the lower courts before exercising our certiorari jurisdiction."); Eugene Gressman et al., *Supreme Court Practice* § 4.18, at 280-81 (9th ed. 2007).

Not hearing the case now will also accommodate development of the record and permit the Court to decide the case based on an actual application of the Federal Circuit's en banc decision to the pertinent facts, if the Court is so inclined to grant certiorari at a later date. *See, e.g.*, *Mount Soledad Mem'l Ass'n v. Trunk*, 132 S. Ct. 2535, 2536 (2012) (Alito, J., respecting denial of certiorari) (noting denial of an interlocutory judgment did not prevent the government from "rais[ing] the same issue in a later petition following entry of a final judgment"); *Toledo Scale Co. v. Computing Scale Co.*, 261 U.S. 399, 418 (1923) ("[A] mere denial of the writ to an interlocutory ruling of the Circuit Court of Appeals does not limit our power to review the whole case when it is brought here by our certiorari on final decree."); *Va. Military Inst.*, 508 U.S. at 946 ("Our action [denying a petition of an interlocutory case] does not . . . preclude [the petitioner] from raising the same issues in a later petition, after final judgment has been rendered.").

Denial of certiorari now will also allow time for the decision in *Akamai* to be applied in other cases, thus creating a more complete picture of the actual effect of the decision, such as the accuracy of Limelight's prediction that *Akamai* will create doctrinal uncertainty and increased litigation. Pet. 29-34. Further, even assuming there is an increase in litigation, allowing the issue to percolate will allow the Court to assess Limelight's assertion that such litigation will lead to unjust results. Pet. 31. Contrary to Limelight's assertions, and as discussed below, *Akamai* provides a fair balance

between protecting the rights of patent holders and potential infringers.

This Court should accordingly stay its judicial hand to allow the district court to issue a decision in this case.

II. THE FEDERAL CIRCUIT'S DECISION WAS CORRECT AND SHOULD NOT BE DISTURBED BY THIS COURT

Moreover, certiorari is not warranted as *Akamai* merely rights a very recent error in Federal Circuit jurisprudence and returns the law to its correct place. It accordingly should not be disturbed by this Court.

A. *Akamai* Did Not Hold that There Can Be Induced Infringement Without Direct Infringement

Limelight's and its amici's contention that *Akamai* held that no direct infringement is required for a finding of induced infringement is plainly wrong. Pet. 16.

While *Akamai* held it was not ruling on indirect infringement coupled to direct infringement *under § 271(a)* (App. 6a), the court *repeatedly* stated that a determination of indirect infringement *requires* a predicate finding of direct infringement (*see* App. 3a, 8a, 9a, 20a, 23a, 25a, 26a). One cannot read these statements in the court's opinion and reasonably conclude that the court held that there need not be a determination of direct infringement. And the court's opinion cannot be reasonably read as not requiring that all of the steps of the claimed

method be performed, albeit by Limelight and the content providers.

Indeed, the court noted that the "principle, that there can be no indirect infringement without direct infringement, is *well settled*." App. 8a (emphasis added). The court further noted, "The reason for the rule is simple: There is no such thing as attempted patent infringement, so if there is no infringement, there can be no indirect liability for infringement." *Id.* The court held, however, that "[r]equiring proof that there has been direct infringement as a predicate for induced infringement *is not the same* as requiring proof that a single party would be liable as a direct infringer." App. 9a (emphasis added). Accordingly, Limelight's and its amici's contrary arguments should be rejected.

B. The Plain Language of the Statute Supports *Akamai*

Section 271(b) states, "Whoever actively induces infringement of a patent shall be liable as an infringer." The plain language of the statute does not require a predicate determination that *a single party* directly infringed under § 271(a) prior to imposing liability under § 271(b). The statutory language merely requires that the person induce an infringement. There is nothing in the plain language that forbids an inducer from performing any of the steps of the claimed method as part of that act of infringement. *See* App. 10a.

Other subsections of the infringement statute, including 35 U.S.C. § 271(e)(2), 271(f), and 271(g),[4] support the proposition that infringement liability "is not limited to the circumstances that give rise to liability under section 271(a)." App. 20a. Each of these sections requires a direct infringement. None, however, requires a finding of liability under § 271(a) in order to find infringement under that section of the statute. *See* App. 20a-21a. Limelight's petition offers no compelling argument for why infringement in these sections is different from infringement under § 271(b).

Further, *Akamai* is not inconsistent with 35 U.S.C. § 281. Section 281 merely states a patentee should be afforded the opportunity to have its infringement claims for damages tried in a civil action. Section 281 and its legislative history reveal nothing about the term "infringement" except to suggest that Congress intended to provide a remedy "for violation of any right secured by patent." Indeed, if anything, § 281 supports a finding of induced infringement because Akamai's patent rights are violated regardless of whether Limelight induced its customers to perform all the steps of the claim or it performed certain steps while inducing its customer to perform the others.

Moreover, the Linn dissent's contention that the majority's holding does not define "infringement" and thus leaves the term open to any definition a

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[4] App. 200a-206a.

court wants to apply to it is a red herring. App. 74a. It is black-letter law that practicing every step of a patented method constitutes infringement. What is disputed is whether joint infringement is excluded, a gloss improperly added to § 271(a) by *BMC* and *Muniauction*. *See infra* Section V.

C. *Akamai* Is Consistent with Prior Precedent

1. *Akamai* Corrected a Recent Error in Federal Circuit Precedent

As discussed above, *Akamai* overruled *BMC*'s requirement that "in order for a party to be liable for induced infringement, some other single entity must be liable for direct infringement." App. 3a. The court held "all the steps of a claimed method must be performed in order to find induced infringement, but that it is not necessary to prove that all the steps were committed by a single entity." *Id.* The court explained that an inducer cannot escape liability merely because the inducer itself also performs steps of the process.[5] App. 9a.

This holding was neither novel nor unprecedented. For example, in *Fromson*, 720 F.2d

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[5] Contrary to the argument by amicus for Limelight, Congress's silence on the issue of joint infringement in the most recent reform of the Patent Act does not mean it tacitly approved a single-entity rule. *See Girouard v. United States*, 328 U.S. 61, 69-70 (1946). The joint infringement problem created by *BMC* and *Muniauction* is of recent vintage and has not existed for the fifty years that Epic contends in its petition (No. 12-800) Congress had to correct the problem. Epic Pet. 22.

at 1568, the accused infringer performed certain steps of a patented method but left the final step to its customer. The Federal Circuit noted that "[b]ecause the claims include the application of a diazo coating or other light sensitive layer and because Advance's customers, not Advance, applied the diazo coating, Advance cannot be liable for direct infringement[6] with respect to those plates *but could be liable for contributory infringement.*" *Id.* (emphasis added).[7] Accordingly, because practice of the method was divided between the accused infringer and its customers, liability for indirect infringement could *not* have been premised on any single actor's liability for direct infringement. The court could not have reached this conclusion under a single-entity rule.

2. *Akamai* Is Consistent with This Court's Precedent

Limelight asserts that, prior to *Akamai*, the law has always required that a separate, single party be liable for direct infringement of a claimed method under § 271(a) before there could be liability for indirect infringement under § 271(b). Pet. 15. Thus, Limelight asserts that *Akamai* departs from

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[6] *See infra* n.16.

[7] Limelight asserts (Pet. 26) that this statement only applies to product claims and should not be considered. Contrary to Limelight's assertions, however, in *Fromson*, both product and method claims were asserted. App. 28a.

established precedent of this Court and constitutes a sweeping change in the law. Pet. 16.

In advancing this argument, Limelight relies heavily on this Court's decisions in *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) ("*Aro I*"), *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972), and *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011). According to Limelight, these cases support the proposition that a party who induced infringement of a method claim could escape *all* liability for infringement if it itself performed one of the steps of the method. Pet. 16-19.

The statements Limelight points to in these cases, however, simply note the unremarkable proposition that there must be a direct infringement in order to have a determination of induced infringement. But, as discussed above, this is *exactly* what the Federal Circuit held in *Akamai*. *See supra* Section I.A.

For example, in *Aro I*, this Court explained that "if there is no infringement of a patent there can be no contributory infringer." *Aro I*, 365 U.S. at 341 (citation omitted). But as explained in *Akamai*, the *Aro I* case simply did not address the issue of joint infringement of method claims. App. 24a-25a. Rather, in *Aro I*, the Court found that there was no infringement of the *product* claims at all, by any party, thus precluding any finding of indirect infringement. Thus, *Aro I* simply stands for the proposition that finding of a direct infringement is a necessary predicate for a determination of indirect infringement. This is, and has always been, the law.

As *Akamai* noted, "that is a sound and uncontroversial proposition." App. 23a.

In *Deepsouth*, this Court once again confirmed this direct infringement requirement, stating that "it is established that there can be no contributory infringement without the fact or intention of a direct infringement." 406 U.S. at 526. Again, there was no issue of joint infringement in *Deepsouth*.

And in *Global-Tech*, the issue now before the Court was not considered. The Court confirmed there must be a direct infringement to have induced infringement under § 271(b), but, like *Aro I* and *Deepsouth*, the Court did not address whether the inducer could itself perform steps of the claimed method. Indeed, in *Global-Tech*, the court stated that "[d]irect infringement has long been understood to require *no more than* the unauthorized use of a patented invention." *Global-Tech*, 131 S. Ct. at 2065 n.2 (emphasis added).[8]

In fact, *Global-Tech* actually supports *Akamai*. In *Global-Tech*, this Court addressed the culpable conduct necessary to make a determination of induced infringement. Yet, under Limelight's theory, a party could explicitly engage in all the conduct that meets the inducement standard, yet completely evade any liability simply by practicing one of the

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[8] While *Aro I*, *Deepsouth*, and *Global-Tech* reference direct infringement *under § 271(a)*, those references to § 271(a) were clearly dicta and, as previously noted, none of these cases deals with joint infringement.

claim steps itself. Such an outcome contradicts the policy underlying this Court's *Global-Tech* decision, which held that defendants should not be able to avoid infringement based on a technicality. There, this Court rejected attempts to read the inducement requirements so narrowly that it would have allowed parties to escape liability for inducement by burying their heads in the sand. Similarly, it contravenes sound patent policy to allow an inducer to escape all liability merely because the inducer participates in the process. *See infra* Section II.D.

Consistent with these cases, *Akamai* held that the law has *always* required that there must be direct infringement of a claimed method before there could be indirect infringement under § 271(b). App. 20a. But as explicitly recognized by the Federal Circuit, this does not mean, and has never meant, that a separate single actor must actually be found to be liable under § 271(a) before liability can be imposed under § 271(b). *Id.*

Indeed, under Limelight's (and its amici's) interpretation of the law, a party who otherwise induces infringement but also actually performs a step of a method claim is completely immunized from any finding of liability based on this performance. Limelight, however, fails to cite a single case from this Court that supports such a strained interpretation of the law. As the Federal Circuit stated, "[i]t would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes further by actually performing some of the steps himself." App. 10a. As the court further noted, "[t]he

party who actually participates in performing the infringing method is, if anything, more culpable than one who does not perform any steps." *Id.*

Moreover, contrary to Limelight's assertions (Pet. 30), *Akamai* is also consistent with the "all elements" rule. In *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997), this Court, in the context of clarifying the doctrine of equivalents, held that "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole." Thus, direct infringement exists if each claimed element of the patent invention is present in the accused product or process. *Id.* at 40.

This "all elements" rule requires every step of a method be performed for the claim to be infringed. This rule, however, says nothing about *who* must practice each step. Accordingly, although *Warner-Jenkinson* discusses what constitutes direct infringement of a method claim—that is, the practice of every step of a claimed method—it does *not* address the issue of *who* must practice the steps.

Akamai properly held that, to find induced infringement, it must be shown that *all* of the steps of a method claim are being performed. App. 3a. This is entirely consistent with the all elements rule announced in *Warner-Jenkinson*.

Accordingly, none of these cases relied on by Limelight addresses whether a separate single entity

must be first held to be liable under § 271(a) as a predicate condition to impose liability under § 271(b).

3. *Akamai* Is Consistent with Pre-1952 Precedent

Similarly, case law from other circuits prior to the enactment of the 1952 Patent Act did not require a separate single entity be liable for direct infringement as a predicate for a determination of indirect infringement.[9] For example, in *Peerless Equipment Co. v. W.H. Miner, Inc.*, 93 F.2d 98, 105 (7th Cir. 1937), the court upheld a finding of indirect infringement because the manufacturer performed all but one step of the asserted process claim and passed nearly finished gears on to the customer "with the knowledge that the railroads will put them to use and thereby flatten the crown, thus completing the final step of the process." *See also* App. 26a-27a (discussing *Thomson-Houston Elec. Co. v. Ohio Brass Co.*, 80 F. 712, 721 (6th Cir. 1897); *Solva Waterproof Glue Co. v. Perkins Glue Co.*, 251 F. 64, 73-74 (7th Cir. 1918)).

Accordingly, *Akamai* noted, "the question whether the majority's position constitutes a change in the law, or whether the dissent's position would constitute a change, depends on what one thinks the prior rule was." App. 28a. The case law from this Court, the Federal Circuit, and the pre-1952 case law

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[9] The pre-1952 case law relating to contributory infringement was not overruled by the 1952 Patent Act. *Aro I*, 365 U.S. at 347-48 nn.1, 3 (Black, J., concurring).

from other circuits all readily demonstrate that it was *BMC* and *Muniauction*, not *Akamai*, that represented a change in the law of indirect infringement. Properly understood, therefore, *Akamai* does not represent a sweeping change in the law of induced infringement.

D. The Legislative History Supports *Akamai*

The legislative history of the 1952 Patent Act further provides support for interpreting induced infringement as not requiring a single entity. *Akamai* correctly quoted the House reports and other commentary, which recount the broad nature of § 271(b). *See* App. 10a-14a. *Akamai* referenced statements made by Judge Rich, the principal drafter of § 271,[10] during the legislative hearings on the 1952 Patent Act. App. 12a-13a. There, Judge Rich discussed a hypothetical case to explain why a provision like § 271(b) needed to be included in the statute. *Id.* Judge Rich noted the problem of some arts, such as radio communication, which involves both transmitting and receiving, which necessarily requires multiple actors. *Id.* As pointed out by *Akamai* (App. 12a), in commenting on the proposed version of what was to become § 271(b), Judge Rich

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[10] This Court has specifically cited Judge Rich's testimony to interpret issues of patent law, precisely because he played such a prominent role in drafting and promoting § 271. *See Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 205-06 (1980); *Aro I*, 365 U.S. at 366 (Brennan, J., concurring); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 486 (1964); *Bilski v. Kappos*, 130 S. Ct. 3218, 3247 (2010).

made clear that he saw no anomaly in finding liability for indirect infringement where there was no infringement by a single actor (App. 12a-13a).

E. Other Areas of the Law Support *Akamai*

Akamai relied on other areas of the law to support its decision, explaining that a "principal's liability for acts committed not only through an agent but also by an innocent intermediary who was induced by the principal is not an idiosyncrasy of patent law, but is found in other areas of the law as well." App. 14a.

1. Tort Law Principles

Given that patent infringement is a tort,[11] *Akamai* relied on tort law (App. 16a-17a), primarily on § 876 of the Restatement of Torts (1938) and § 877 of the Restatement (Second) of Torts (1979), in holding that a party who knowingly induces another to perform method steps, while performing one or more steps itself, should be liable for the inducement of patent infringement. *Id.* These sections set forth the rules of liability for inducement of tortious conduct. *See* Restatement (Second) of Torts § 877(a) cmt. a ("[O]ne who accomplishes a particular consequence is as responsible for it when accomplished through directions to another as when accomplished by himself.").

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[11] *Carbice Corp. of Am. v. Am. Patents Dev. Corp.*, 283 U.S. 27, 33 (1931) ("Infringement, whether direct or contributory, is essentially a tort, and implies invasion of some right of the patentee.").

For example, under tort law, a party is responsible for the conduct it "orders or induces." Restatement (Second) of Torts § 877(a). This principle provides a compelling basis for liability in the context of joint infringement based on policy and common law tort principles. It is well established that a party performing all method steps itself, as well as a party that induces another to perform all steps, would both be liable. There is no reason, based in policy or law, to immunize from all liability a party who combines those bases of liability by performing some steps itself and inducing the rest. This is the "bizarre result" of the single-entity requirement noted by the Federal Circuit. App. 10a. Because the Restatement states that a party is responsible for the conduct it "orders or induces," an accused infringer would be liable for inducing another to perform steps of a method, even where it performs steps itself. *See* App. 17a-18a.

Both § 876 of the First Restatement and § 877 of the Second Restatement refer to the "tortious conduct" of another. Limelight asserts these sections provide inducement liability *only* in the presence of an underlying wrongful or "tortious conduct," and that the performance of anything other than all steps of the method claim by a single entity is not independently wrongful and therefore not tortious. Pet. 28-29. The Restatements, as well as case law and commentary, however, show that the acts of either the induced party or the inducing party need not be an independent tort. *See* App. 16a-19a. As a leading treatise on tort law explains, liability attaches "where the acts of each of two or more parties, standing alone, *would not be wrongful,* but

together they cause harm to the plaintiff." W. Page Keeton et al., *Prosser & Keeton on the Law of Torts* § 52, at 354 (5th ed. 1984). Prosser also points out: "[A]cts which individually would be innocent may be tortious if they thus combine to cause damage . . . . The single act itself becomes wrongful because it is done in the context of what others are doing." *Id.* Therefore, the Restatement means that when the inducing party performs some steps "*in the context*" of inducing another to perform the remaining steps, the inducing party is liable for infringement. *See, e.g.*, *Town of Sharon v. Anahma Realty Corp.*, 123 A. 192, 193 (Vt. 1924) (parties' actions "caused and could cause no damage" independently); *Blair v. Deakin*, 57 L.T.R. 522, 525-26 (1887) (independently harmless substances); *Hillman v. Newington*, 57 Cal. 56, 63-64 (1880) (independently harmless diversions of common water supply).

Accordingly, the Federal Circuit's *Akamai* decision was amply supported by the plain meaning of the statute, the Federal Circuit's precedent, the precedent of this Court, case law from other circuits, its legislative history, related principles of law, and policy. There is simply no basis under precedent or patent policy to allow an inducer to escape liability for patent infringement merely because it also performs a step of the process. This Court should therefore not waste its resources to review the correctly decided *Akamai* decision.

2. Federal Criminal Code

Akamai also cited aiding and abetting sections of the Federal Criminal Code, including 18 U.S.C. § 2(a) and 2(b), and noted these sections are similar

in language to § 271. App. 14a-15a. After noting this similarity, the court cited several cases interpreting the criminal code to allow an accessory to a crime to be convicted even if the principal is not convicted of the underlying criminal conduct. App. 15a-16a.

Limelight, however, asserts that § 2(b) cannot apply because § 2(b) requires that the parties involved be engaged in "prohibited conduct." Pet. 27. According to Limelight, because each party is only performing some of the method steps, there is no "prohibited conduct." Pet. 27-28.

The "prohibited conduct" or "offense," however, is the offense of infringement of a patent, i.e., "the unauthorized use of a patented invention." *See Global-Tech*, 131 S. Ct. at 2065 n.2. Limelight's argument fails because it presupposes a patentee's exclusive right is limited only to a right to exclude single actors who infringe. To the contrary, as noted above, a patent owner's exclusive rights are infringed whenever its patented process is performed, regardless of how many parties performed the steps.[12]

III. *AKAMAI* DOES NOT CREATE UNACCEPTABLE DOCTRINAL UNCERTAINTY

Limelight and its amici assert *Akamai* undermines basic principles of patent law and invites

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[12] Like *Akamai*, in *Global-Tech*, 131 S. Ct. at 2068-71, this Court looked to well-established principles of criminal law when examining the issue of knowledge required under § 271(b).

costly litigation. Pet. 29. Not so. As the Federal Circuit noted:

> Because section 271(b) extends liability to a party who advises, encourages, or otherwise induces others to engage in infringing conduct, it is well suited to address the problem presented by the cases before us, i.e., whether liability should extend to a party who induces the commission of infringing conduct when no single "induced" entity commits all of the infringing acts or steps but where the infringing conduct is split among more than one other entity.

App. 7a. Nevertheless, Limelight's and its amici's sky-is-falling arguments are examined below.

A. *Akamai* Does Not Undermine the Strict Liability Nature of Direct Infringement Under § 271(a)

Limelight asserts that the *Akamai* decision undermines the "strict-liability nature of direct infringement" under § 271(a). Pet. 30. This is simply not the case. The Federal Circuit's decision depends on § 271(b), which does *not* implicate issues of strict liability. App. 5a-6a.

The Federal Circuit explained that, under circumstances where the induced conduct satisfied the induced infringement requirements, there could be liability under § 271(b) even if the inducer also performed steps itself. App. 9a. Principles of strict liability under § 271(a) are not affected by this holding.

B. *Akamai* Will Not Lead to Abuse

In the proceedings below, Limelight and its supporting amici at the Federal Circuit expressed great concern that "innocent infringers," i.e., parties that innocently performed a step of a claim unaware that their conduct could be infringing, would be liable for infringement and would lead to abuse. *Akamai*, however, alleviates this concern.[13]

The Federal Circuit noted that liability under § 271(b) imposes certain restrictions that do not apply to liability under § 271(a). App. 7a. Specifically, the court noted that the patentees in *Akamai* still have to show: (1) Limelight knew of the patent; (2) it performed all but one of the steps of the method claimed in the patent; (3) it induced the content providers to perform the final step of the claimed method; and (4) the content providers in fact performed that step. App. 30a. A party that satisfies all four criteria cannot in any way be considered an "innocent infringer."

As the Federal Circuit noted, "using inducement to reach joint infringement does not present the risk of extending liability to persons who may be unaware of the existence of a patent or even unaware that others are practicing some of the steps claimed in the patent." App. 7a n.1.

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[13] Because of the strict liability nature of § 271(a), "innocent" infringers may be held liable under that section of the statute. Section 271(b) is a more restrictive standard.

Michael Barclay, who assisted the Electronic Frontier Foundation ("EFF") in writing its amicus brief in support of Limelight before the Federal Circuit, noted that *Akamai* resolved the greatest concern for the amici in support of Limelight. Following the decision, Mr. Barclay sent an email to a popular patent blog, which it published. While Epic cited this blog for the proposition that "the decision opens a can of worms that will continue to squirm for years to come" (Epic Pet. 30), Epic failed to acknowledge that the blog goes on to say:

> It's not as bad as I thought when I saw that they overruled [*BMC*]. The majority merely holds that an active inducer will be held liable so long as one or more parties are induced to practice all the steps of a claimed method. It appears that innocent actors who were "induced" by someone else will **not** be individually liable (unless, of course, they perform all the steps of the method claim themselves and thus are direct infringers). That was one point of EFF's amicus brief, so from that standpoint, the decision was not all bad. Our brief urged that innocent third parties (those with no level of intent) not be held strictly liable for direct infringement. It appears that is the law.

http://www.patentlyo.com/patent/2012/08/joint-infringement-federal-circuit-changes-the-law-of-inducement.html.

Mr. Barclay is correct. *Akamai merely* holds that an inducer can be liable in situations where all of the steps of a method claim are performed.

Amici for Limelight, however, now assert that the "intent" component of induced infringement is an illusory shield as it allegedly provides no practical protection in view of a pre-*Akamai* decision holding that service of a complaint for induced infringement is sufficient to meet the intent threshold. According to the amici, the *Akamai* ruling has empowered non-practicing entities or "NPEs" with a powerful negotiating weapon and shifted enormous risk onto business. Not so. While filing a complaint may meet the "knowledge of the patent" requirement, *see Walker Digital, LLC v. Facebook, Inc.*, 852 F. Supp. 2d 559, 565 (D. Del. 2012), the pre-*Akamai* case law at the Federal Circuit makes clear that knowledge by itself is not sufficient; a complaint "must contain facts plausibly" showing all the other elements of inducement, which is not limited to knowledge of the patent, *In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1339 (Fed. Cir. 2012).

The undercurrent of much of the amici's parade-of-horribles appears to be from NPEs that stretch the meaning of their claims and cause business risk and expense to practicing entities. Limelight's amici discount the massive harm to the inventing community caused by allowing a party to induce infringement of a valid patent, yet provide no remedy to the patentee merely because the inducer also performed a step in the process. It is inconsistent with federal patent policy to establish rules that ensure that numerous duly issued and valid patents can never be enforced.

This restrictive single-entity standard left patentees without a patent infringement remedy. This affected *all* patentees with method claims, and is not limited to NPEs or, as Limelight alleges, to only those patentees with so-called "interactive" method patents (Pet. 32), as two entities could split up the performance of any traditional method claim and thus avoid infringement under the single-entity rule. This rule seriously impaired the incentive function of patents for an increasing number of patentable inventions by permitting circumvention in the form of contrived "non-infringing" multiple-actor scenarios.

Limelight's and its amici's arguments that proper claim drafting will somehow mitigate the issue of joint infringement are wrong. Pet. 7. This is demonstrated in *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010). There, the claims were drafted to cover a single actor carrying out the steps, but the defendants divided the performance of the different steps between them. *Id.* at 1382-83. The joint infringement was the result of the parties' actions, not claim drafting. Indeed, it is extremely difficult for any claim draftsman to contemplate all the ways in which would-be copyists might evade infringement by designing their activities to jointly perform a method. In addition, there are important multi-participant inventions that are best captured by multi-participant claims or that should not cover each party separately. To suggest that claims be drafted which ignore that fact makes no sense as a matter of patent law or policy. The Federal Circuit's prior precedents created a loophole

that simply cannot be closed through claim drafting. *See* App. 44a.

In contrast, *Akamai* provides a sensible, workable standard for induced infringement under § 271(b) that *does* close the loophole that otherwise allowed infringers to escape liability based on a technicality. It does a good job of balancing the interests of patentees and those accused of infringement.

C. *Akamai*'s Flexible Approach to Joint Liability Is Consistent with Supreme Court Policy

This Court has long expressed a preference for flexible fact-based standards that avoid bright-line rules. For example, in this Court's recent decisions regarding patent eligibility, including *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), and *Bilski*, 130 S. Ct. at 3225-26, this Court articulated a flexible legal inquiry to be applied in cases dealing with patentable subject matter. Similarly, in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007), this Court rejected a rigid approach for determining obviousness. *See also eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392-93 (2006) (rejecting a bright-line rule granting permanent injunctions when validity and infringement have been found); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 65-66 (1998) (rejecting a bright-line rule that an invention cannot be "on sale" unless and until it is reduced to practice). The Federal Circuit's single-entity rule prior to *Akamai* proved too limiting, requiring the existence of an agency relationship or an equivalent

contractual relationship establishing a single party's control over the infringing acts in order to establish infringement.

D. *Akamai* Does Not Implicate Issues of Extraterritoriality

Professor Holbrook, amicus in *Epic*, No. 12-800, asserts *Akamai* removes the territorial limits on inducement, because pre-*Akamai*, the Federal Circuit used the territorial limits in section § 271(a) to limit inducement under § 271(b).

Simply because the liability requirement of § 271(b) is not coupled to § 271(a) does *not* mean that the court will divorce itself from the territorial requirements of direct infringement—the same way that the Federal Circuit has not divorced itself from the notion that all steps of the method must be performed. *See supra* Section II.A. The court has required that, in order to find direct infringement, the steps of the method must be practiced in the United States. *Merial Ltd. v. Cipla Ltd.*, 681 F.3d 1283, 1302 (Fed. Cir. 2012). There is no reason to believe that this will change as a result of *Akamai*. Indeed, this Court itself has limited the application of U.S. laws in foreign countries. *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 455 (2007) (relying on the presumption that U.S. law governs domestically to interpret § 271(f) narrowly).

Further, as Professor Holbrook admits, neither this case nor *Epic* presents issues of extraterritoriality. Thus, this is a perfect example of why this case is not ripe for review, a factor discussed in detail above. *See supra* Section I. Denial of

certiorari at this stage will allow time for *Akamai* to be applied in other cases, thus creating a more complete picture of the actual effect of the decision in other cases.

IV. AN ALLEGED CONFLICT AT THE FEDERAL CIRCUIT IS NOT ALONE A REASON TO GRANT CERTIORARI

Limelight and its amici assert that the split decision in *Akamai* shows the court is fractured on this issue, the implication being that this Court should grant certiorari because of a conflict. Pet. 10.

This Court, however, has denied petitions for certiorari from the Federal Circuit where the court was evenly divided on an issue of law. For example, this Court recently denied a petition for certiorari in the case *Eli Lilly & Co. v. Sun Pharmaceutical Industries, Ltd.*, 131 S. Ct. 2445 (2011), involving the correct legal standard for obviousness-type double patenting. There, the Federal Circuit was evenly split (5-4) on a request to rehear a panel decision en banc. Further, in *Sun*, because the request for en banc rehearing was denied, the Federal Circuit did not have an opportunity to potentially correct the law, as it did here. Accordingly, a split decision is not reason alone to grant certiorari.

V. COUPLING § 271(a) AND (b) PROVIDES ALTERNATIVE SUPPORT FOR *AKAMAI*, SINCE THERE IS NO SINGLE-ENTITY RULE UNDER § 271(a)

Even if this Court were to accept Limelight's assertions that liability under § 271(a) must be established before imposing liability under § 271(b),

there would in fact be such liability under § 271(a) here because two or more parties (here Limelight and its customers) working together can jointly infringe a process patent under § 271(a). Limelight's arguments to the contrary presuppose that *only* a single entity can be held liable for infringement under § 271(a), i.e., the single-entity rule. Under this single-entity rule, if another party performs any step of the claim, it must do so under the guise of an agency relationship or a contractual agreement.

But Limelight is wrong. There is no basis under precedent, the plain language of the Patent Act, or the policies underlying the Patent Act for reading into § 271(a) a single-entity requirement, as pointed out in the dissent by Judge Newman. App. 36a-46a. Indeed, there is not a single decision from the Federal Circuit or this Court that supports the single-entity rule announced in *BMC* and *Muniauction*[14] which provides a sound, reasoned basis to impose a single-entity restriction on § 271(a).[15] As Limelight and its customers acted

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[14] Including *Warner-Jenkinson*, 520 U.S. at 17; *Canton Bio-Medical, Inc. v. Integrated Liner Technologies, Inc.*, 216 F.3d 1367 (Fed. Cir. 2000); *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272 (Fed. Cir. 1992); *Joy Technologies, Inc. v. Flakt, Inc.*, 6 F.3d 770 (Fed. Cir. 1993); *Fromson*, 720 F.2d 1565; and *Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293 (Fed. Cir. 2005), all relied upon by *BMC*.

[15] While Limelight argues that the Federal Circuit in *Fromson* found no joint infringement liability regarding the process claim, the district court on remand reversed its

together to infringe the claimed method, such joint action should constitute direct infringement under § 271(a). *See On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1344-45 (Fed. Cir. 2006) (finding no flaw in the statement "[i]t is not necessary for the acts that constitute infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement.").

Liability should be imposed under such circumstances based on two legal theories—both of which are well-established joint liability doctrines. First, if one party "directs or controls"[16] another to perform steps of a method claim, those steps may be attributed to the directing or controlling party (the "mastermind") as if it performed such steps itself. This doctrine prevents a party from immunizing itself from infringement by performing nearly all the steps of a method claim while directing or controlling the performance of the remaining steps by another.

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noninfringement finding, holding all asserted claims "directly and contributorily" infringed, 1984 WL 1390, at *8 (D. Mass. July 17, 1984), which the Federal Circuit affirmed, 755 F.2d 1549, 1559 (Fed. Cir. 1985).

[16] There is no basis for confining such direction or control to an agency or contractual relationship. *See, e.g., Gershwin Publ'g Corp. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971) ("This court attached no special significance to the technical classification of the Green-Jalen relationship.").

Second, where parties "act in concert," each such party should be jointly and severally liable for direct infringement under § 271(a). This doctrine applies whenever the parties act in concert to perform the steps that constitute a method claim, whether they are partners, part of a joint enterprise, or have a contractual relationship. Each circumstance is a recognized form of joint liability where the mastermind and the parties acting in concert are liable for their acts. *See, e.g.*, 1 U.S.C. § 1 ("whoever" in § 271(a) must be construed as including single or plural actors); Restatement (Second) of Torts §§ 876, 877; Restatement (Second) of Agency § 212 (1958); *Prosser & Keeton on Torts* §§ 46, 52; *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 435 (1984).

Additionally, a party cannot avoid liability simply by contracting out a step of a claimed method. *BMC*, 498 F.3d at 1381. Such a contractual obligation can also be strong evidence of direction or control or that the parties are acting in concert.

Given the foregoing, coupling § 271(a) to § 271(b) would be an alternative ground supporting judgment in Akamai's favor.

CONCLUSION

For the foregoing reasons, the petition should be denied.

Respectfully submitted,

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April 3, 2013

REPLY BRIEF

RECORD
AND
BRIEFS

No. 12-786

IN THE
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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CORPORATE DISCLOSURE STATEMENT

Petitioner Limelight Networks, Inc.'s Rule 29.6 Statement was set forth at p. iii of the petition for a writ of certiorari, and there are no amendments to that Statement.

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The Federal Circuit's *en banc* majority has created a new infringement tort, threatening liability not for direct infringement under § 271(a) and not for inducing another to infringe under § 271(b), but instead for inducing the performance of only some of the claim steps of a method patent. Akamai does not dispute the importance of the Federal Circuit's holding, which, in the eight months since it was decided, has revived multiple infringement suits that had failed because the patent-holder could not prove that anyone directly infringed its patent. Contrary to Akamai's arguments, there is no justification for delaying review of the Federal Circuit's dramatic departure from settled patent law. Reversal may end this litigation, and resolution of the issue by the *en banc* Federal Circuit makes it unlikely that the rule will be reconsidered unless this Court intervenes.

Akamai defends the result below on the merits, but it can attempt to square the *en banc* majority's decision with this Court's precedent only by dismissing the reasoning in three of this Court's decisions as "dicta." *See* Opp. 19 n.8. Akamai considers it a virtue of the Federal Circuit's decision that it encourages lawsuits by owners of "multi-participant" patents, even when no one directly infringes. Opp. 32. We do not agree, nor do the many leading technology companies and associations that have warned that the Federal Circuit's decision "will exacerbate the growing problem of high-cost and abusive patent litigation." Google et al. Br. 5-6 ("Google"); *see* CTIA et al. Br. 3 ("CTIA") (predicting "profound consequences" from the decision that "necessitate this Court's immediate review"); Altera et al. Br. 4 ("Altera") ("in dramatically and impermissibly changing the law, *Akamai* has shifted enormous risk onto businesses (and hence the public)"). In any event,

resolution of that policy issue is for Congress, not the Federal Circuit, and the decision below cannot be squared with the statute. This Court should grant the petition for certiorari and reverse.

ARGUMENT

I. BECAUSE THE FEDERAL CIRCUIT HAS DEFINITIVELY RESOLVED A LEGAL ISSUE OF UNDISPUTED IMPORTANCE, REVIEW IS WARRANTED NOW

The Federal Circuit's decision places a new arrow in the quiver of entities seeking to assert so-called "interactive" method patents, allowing them to claim that a "mastermind" has induced infringement even though there is no direct *infringer*, Opp. 37, based on the allegation that the defendant induced the performance of at least one step of the claimed method. Akamai does not and cannot question that this new category of quasi-inducement liability will profoundly affect the course of litigation of numerous cases, with cascading impacts on patent-owners' licensing demands. In barely eight months, the Federal Circuit has already reversed the dismissal of at least four cases in reliance on the decision below;[1] the new

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[1] *Artistocrat Techs. Australia Pty Ltd. v. International Game Tech.*, 709 F.3d 1348, 1364 (Fed. Cir. 2013) ("[l]ike the plaintiffs in the cases underlying our en banc decision in *Akamai*, Aristocrat deserves the opportunity to press its indirect infringement theory"); *Move, Inc. v. Real Estate Alliance Ltd.*, 709 F.3d 1117, 1123 (Fed. Cir. 2013) ("We . . . vacate the district court's grant of summary judgment and remand for a determination whether Move is liable for indirect infringement under the standard set forth in *Akamai*."); *Travel Sentry, Inc. v. Tropp*, 497 F. App'x 958, 967 (Fed. Cir. 2012) (vacating summary judgment of non-infringement in light of *Akamai*); *Tropp v. Conair Corp.*, 484 F. App'x 568, 569-70 (Fed. Cir. 2012) (reversing dismissal on *res judicata* grounds in light of new rule).

liability theory has altered the course of numerous district court cases as well.[2]

Akamai nevertheless urges this Court to "stay its judicial hand" because the case is interlocutory. Opp. 10-13. But this Court routinely grants certiorari to review interlocutory decisions involving important matters of statutory construction.[3] This case qualifies: the question whether the Patent Act imposes liability for inducing infringement of a patent when no one has directly infringed the patent under § 271(a) is an "important and clear-cut issue of law that is fundamental to the further conduct of the case." Eugene Gressman et al., *Supreme Court Practice* 281 (9th ed. 2007). Moreover, unless the Federal Circuit, in the event of a remand, were to revisit its prior decision to leave the panel's direct-infringement ruling in place, a ruling by this Court in Limelight's favor would end this litigation.

There is likewise no reason to wait to see how the Federal Circuit's decision will "be applied in other cases." Opp. 12. The Federal Circuit's decision

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[2] *See, e.g.*, *Bascom Research LLC v. Facebook, Inc.*, Nos. C 12-6293 SI et al., 2013 WL 968210 (N.D. Cal. Mar. 12, 2013); *Transunion Intelligence LLC v. Search Am., Inc.*, No. 11-CV-1075-PJS/FLN, 2013 WL 656616 (D. Minn. Feb. 22, 2013); Pet. 31-32 n.6.

[3] *See, e.g.*, *Kappos v. Hyatt*, 132 S. Ct. 1690 (2012) (reviewing interlocutory decision of Federal Circuit construing 35 U.S.C. § 145); *Los Angeles Cty. v. Humphries*, 131 S. Ct. 447 (2010) (reviewing interlocutory decision construing 42 U.S.C. § 1983); *Conkright v. Frommert*, 559 U.S. 506 (2010) (reviewing interlocutory decision concerning standard of deference to decision of ERISA plan administrator); *United Student Aid Funds, Inc. v. Espinosa*, 559 U.S. 260 (2010) (reviewing interlocutory decision involving bankruptcy procedure); *Forest Grove Sch. Dist. v. T.A.*, 557 U.S. 230 (2009) (reviewing interlocutory decision involving interpretation of Individuals with Disabilities Education Act).

renders unlawful conduct that had never been held to be infringing under the 1952 Patent Act; the importance of that fundamental change in the law does not depend on the details of implementation. Moreover, because the Federal Circuit has exclusive jurisdiction over questions of patent law, the *en banc* resolution of the question presented makes it very unlikely that the Federal Circuit will return to the basic issue.

Particularly in light of the deep divisions among the lower court's judges – with only a bare majority of the court joining the majority opinion – certiorari is warranted to resolve the question presented. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 729-30 (2002); John F. Duffy, *The Federal Circuit in the Shadow of the Solicitor General*, 78 Geo. Wash. L. Rev. 518, 536 (2010).

II. REVIEW IS WARRANTED TO ADDRESS THE CONFLICT BETWEEN THE FEDERAL CIRCUIT'S DECISION AND THE STATUTE AND THIS COURT'S PRECEDENTS

Akamai attempts to defend the decision below, but it cannot square the Federal Circuit majority's decision with this Court's precedents or the language and structure of the statute.

A. Section 271(b) Does Not Impose Liability Unless the Defendant Induces Infringement Under § 271(a)

1. This Court has repeatedly stated that proof of direct infringement under § 271(a) is a predicate to a claim of indirect infringement. *See Global-Tech*, 131 S. Ct. at 2065 (to be liable for inducement, defendant must "lead another to engage in conduct that . . . amount[s] to infringement, *i.e.*, the making, using, offering to sell, selling, or importing of a patented

invention. See § 271(a)."); *Deepsouth*, 406 U.S. at 526 (referring to § 271(a) and stating that the Patent Act "defines [indirect] infringement in terms of direct infringement") (internal quotations omitted); *Aro I*, 365 U.S. at 341 (conduct may constitute indirect infringement "if, but only if," it led to "*direct* infringement under §271(a)"). Akamai does not argue that the Federal Circuit majority's decision can be squared with these statements; it cannot be, because the very purpose of the Federal Circuit's rule is to permit imposition of liability for indirect infringement without any showing of direct infringement under § 271(a).

Instead, Akamai dismisses this Court's statements as "dicta" because "none of these cases deals with joint infringement." Opp. 19 n.8. But the principle that liability for indirect infringement requires proof of direct infringement under § 271(a) was central to the Court's holding in both *Deepsouth* and *Aro I*: it is no mere dicta. *See Seminole Tribe of Florida v. Florida*, 517 U.S. 44, 67 (1996) ("When an opinion issues for the Court, it is not only the result but also those portions of the opinion necessary to that result by which we are bound."). Furthermore, dicta or not, there are good reasons for courts of appeals to afford this Court's reasoning significant precedential weight: such statements provide a "prophecy of what [this] Court might hold," *Managed Pharm. Care v. Sebelius*, 705 F.3d 934, 945 (9th Cir. 2012) (internal quotations omitted); respect for this Court's statements of the law promotes the predictable and "even-handed administration of justice," *Official Comm. of Unsecured Creditors of Cybergenics Corp. v. Chinery*, 330 F.3d 548, 561 (3d Cir. 2003) (*en banc*) (internal

quotations omitted).[4] The Federal Circuit's refusal to adhere to this Court's repeated, consistent, and clear statements of the law provides a compelling reason to grant the petition.

2. Akamai provides no sensible reading of the statute that would permit imposition of liability under § 271(b) when no one has directly infringed under § 271(a). It simply ignores this Court's statements making clear that § 271(a) "defines infringement." *Aro I*, 365 U.S. at 341; *see Global-Tech*, 131 S. Ct. at 2065. Instead, Akamai treats it as self-evident that the performance of the steps of a method by multiple independent parties constitutes "infringement." *See, e.g.*, Opp. 13-14 (asserting that opinion below requires "a determination of direct infringement" for imposition of liability under § 271(b)).[5] But that conduct does not constitute infringement under § 271(a), and Akamai does not and cannot base its

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[4] *See also, e.g.*, *McCravy v. Metropolitan Life Ins. Co.*, 690 F.3d 176, 182 n.2 (4th Cir. 2012); *Igartúa v. United States*, 626 F.3d 592, 605 n.15 (1st Cir. 2010), *cert. denied*, 132 S. Ct. 2375 (2012); *Nichol v. Pullman Standard, Inc.*, 889 F.2d 115, 120 n.8 (7th Cir. 1989).

[5] Akamai makes the same type of circular argument when it repeatedly asserts that its "exclusive rights are infringed whenever its patented process is performed, regardless of how many parties performed the steps." Opp. 27; *see* Opp. 15 (similar), 25. That assertion simply restates Akamai's desired conclusion; it provides no support for it. Moreover, even under the Federal Circuit's holding, Akamai's statement is wrong: its "rights" would be infringed only if the defendant actively induced the performance of certain method steps with knowledge of the patent and the specific intent to induce infringement. *See* App. 30a; *cf. Global-Tech*, 131 S. Ct. at 2068. The idea that the scope of the patentee's invention depends on the state of mind of the party or parties practicing it constitutes a dramatic departure from basic patent doctrine. *See* Pet. 30-31.

claim on any other provision of the statute. Rather, the *en banc* majority – for the first time – deemed such conduct to be an "infringement" solely for purposes of imposing liability under § 271(b). And Akamai does not attempt to explain how § 271(b) – which states that one who "induces infringement of a patent" is "liable as an infringer" – can be read to alter the type of induced conduct that constitutes the underlying "infringement."

The dissent correctly pointed out that the Federal Circuit majority's reliance on §§ 271(e)(2), 271(f), and 271(g) undermines its reading of § 271(b), *see* Pet. 23; App. 81a, and Akamai's effort to rehabilitate the argument fares, if anything, worse. Akamai asserts that "[e]ach of these sections requires a direct infringement" but that "[n]one . . . requires a finding of liability under § 271(a)." Opp. 15. But those provisions do *not* impose liability, as § 271(b) does, for conduct leading to direct infringement; rather, they impose liability for specifically defined conduct that would not otherwise infringe: § 271(e)(2) defines the submission of certain types of applications as an "act of infringement"; § 271(f) renders defendants liable for inducing or contributing to certain conduct "that *would* infringe [a] patent" if it "occurred within the United States" (emphasis added); § 271(g) renders defendants liable for importation of products "made by a process patented in the United States" under certain circumstances. Those provisions thus expressly impose liability in the *absence* of direct infringement under § 271(a). There is no textual basis for the assertion that § 271(b) – while imposing liability

for *inducing* infringement – expanded the definition of infringement expressly laid out in § 271(a).[6]

B. Principles of Tort Law and Criminal Law Do Not Support the Result Below

Judge Linn's dissent demonstrated that the majority's reliance on 18 U.S.C. § 2(b) to support its expansion of liability under § 271(b) was incorrect: because §271(b) imposes liability on one who "induces infringement," the analogous provision is 18 U.S.C. § 2(a), which makes it unlawful to "induce[]" the commission of a crime and which requires, for conviction, proof that someone is guilty of the underlying offense. *See* Pet. 27. Akamai ignores this point and instead defends the decision below by making the same error as the *en banc* majority: it asserts that the combined performance of the steps of a method patent by different parties constitutes infringement prohibited under the Patent Act, without any statutory basis for that assertion. Opp. 27; *see supra* note 5. As the court below acknowledged, such conduct does not constitute direct infringement under § 271(a), and there is no other statutory basis for asserting that the conduct infringes the patentee's exclusive rights.

Akamai also seeks to rely on tort-law analogies to expand liability under § 271(b). But it is one thing to

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[6] Because the meaning of § 271(b) is clear, the lower court's reliance on legislative history was inappropriate. In any event, that history, including the statements of Giles Rich, points both ways, *see* Pet. 24-25, a point that Akamai ignores. The petition also explains why the results of two pre-1952 Act cases carry little weight in light of Congress's decision to codify indirect-infringement liability in § 271(b) and (c) and because the holdings that Akamai relies on were incidental to the outcome in those cases. *See* Pet. 25-26. In response, Akamai parrots the opinion below without addressing these counter-arguments.

rely on "a legal background of ordinary tort-related vicarious liability rules" in construing a statutory tort action. *Meyer v. Holley*, 537 U.S. 280, 285 (2003); Opp. Cross-Pet. 15 (No. 12-960). It is quite another to "look[] outside of the statute itself to expand the scope of liability," which amounts to "legislating from the bench." *AT&T Co. v. Winback & Conserve Program, Inc.*, 42 F.3d 1421, 1429 (3d Cir. 1994). Congress codified the bases for indirect-infringement liability in the 1952 Act; "[w]ith respect [to] . . . the scope of conduct prohibited by [the statute], the text of the statute controls." *Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 173 (1994). Akamai's argument that common law has recognized bases for liability that, if applied in the patent context, would not require anyone to directly infringe a patent provides no justification for expanding the bases for liability under § 271(b).

Moreover, Akamai cannot explain how any of the tort doctrines on which it relies, even if applicable, would impose liability when there has been no underlying infringement under § 271(a). *See* Pet. 28-29. The three cases it cites stand for the proposition that, when each of multiple parties *owes the defendant a duty*, no party can defend against liability by arguing that its own breach of duty, by itself, would not have caused harm. *See Town of Sharon v. Anahma Realty Corp.*, 123 A. 192, 193 (Vt. 1924) (each defendant had duty to avoid flooding roadway); *Hillman v. Newington*, 57 Cal. 56, 63-64 (1880) (each defendant had duty to preserve flow of water to downstream user); *Blair v. Deakin*, (1887) 57 L.T. 522, 526 (Ch.) (each defendant had duty to avoid nuisance). But that hoary principle cannot assist Akamai here, because

neither Limelight nor its customers owe Akamai any duty to avoid performing less than all of the steps of its patent. To assert that Akamai's legal rights are nevertheless invaded as a result of *combined* action by Limelight and its customers depends on accepting the Federal Circuit's premise that infringement under § 271(b) means something different from infringement under § 271(a); it does not provide any justification for that premise.

C. Akamai's Policy Arguments Do Not Justify the Federal Circuit's Departure from the Terms of the Statute

Akamai echoes the Federal Circuit's assertion that it would be "'bizarre'" to hold a defendant liable for inducing direct infringement of a method claim under § 271(a) but *not* for performing some steps of that method and inducing another to perform others. Opp. 20 (quoting App. 10a). But that result reflects the rule, which Akamai purports to embrace, that a defendant does not infringe a method claim unless it performs each step of the method. If multiple independent parties perform different steps of a method, none has directly infringed – as the Federal Circuit acknowledged – and there is no basis for the imposition of liability on any one of them.

By contrast, as *amici* attest, a rule that would allow patent plaintiffs to aggregate the actions of multiple independent actors to establish infringement would expand liability in unpredictable and threatening ways. *See* CTIA Br. 8-20; Google Br. 12-18. Claims of "divided infringement" typically involve methods using existing techniques in some assertedly new and non-obvious combination to achieve desired results. As we have explained (*see* Opp. Cross-Pet. 19-22), method claims can generally

be drafted to address the steps taken by a single actor. *See also* Google Br. 20-24; Altera Br. 8-10 (explaining importance of public-notice function of patents). And, in any event, it is questionable whether such methods typically involve significant experimentation or investment in research; the right to impose liability based on the collective use of known techniques would threaten to reduce the value of existing technology and impede further innovation. *See* Pet. 31-33; Google Br. 24-25.

More fundamentally, if the existing patent law provides insufficient protection for method claims, the proper remedy is to amend the Patent Act, not to mangle the existing statute. Akamai's argument is no different from those of other patentees who insist "that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought." *Deepsouth*, 406 U.S. at 531. This Court has never credited such arguments, and it should not do so now.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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May 20, 2013

AMICUS CURIAE BRIEF

RECORD AND BRIEFS

DEC 10 2013

Nos. 12-786 and 12-960

In the Supreme Court of the United States

LIMELIGHT NETWORKS, INC., PETITIONER

v.

AKAMAI TECHNOLOGIES, INC., ET AL.

AKAMAI TECHNOLOGIES, INC., ET AL., PETITIONERS

v.

LIMELIGHT NETWORKS, INC.

ON PETITION AND CONDITIONAL CROSS-PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

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QUESTIONS PRESENTED

1. Whether a defendant that performs some steps of a patented method and that actively induces its customers to perform the remaining steps is liable for inducement of infringement under 35 U.S.C. 271(b).

2. Whether a defendant that performs some steps of a patented method, acting together with another entity that performs the remaining steps, may be liable for direct infringement under 35 U.S.C. 271(a).

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In the Supreme Court of the United States

No. 12-786

LIMELIGHT NETWORKS, INC., PETITIONER

v.

AKAMAI TECHNOLOGIES, INC., ET AL.

No. 12-960

AKAMAI TECHNOLOGIES, INC., ET AL., PETITIONERS

v.

LIMELIGHT NETWORKS, INC.

ON PETITION AND CONDITIONAL CROSS-PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

INTEREST OF THE UNITED STATES

This brief is submitted in response to the Court's order inviting the Solicitor General to express the views of the United States. In the view of the United States, the petition for a writ of certiorari in No. 12-786 should be granted, and the conditional cross-petition for a writ of certiorari in No. 12-960 should be denied.

STATEMENT

1. Any person who invents a "new and useful process, machine, manufacture, or composition of matter"

may obtain a patent in accordance with the conditions and requirements of the Patent Act. 35 U.S.C. 101. A patent holder may bring a civil action for infringement in order to enforce the exclusive rights granted by the Patent Act. 35 U.S.C. 271(a), 281, 284. In particular, Section 271(a) provides in relevant part that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States * * * infringes the patent." 35 U.S.C. 271(a). Section 271(b) states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. 271(b).

A patent claiming a process "is not infringed unless all steps or stages of the claimed process are utilized." *NTP, Inc.* v. *Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) (citation omitted), cert. denied, 546 U.S. 1157 (2006). To establish that the defendant has "used" the process and has thereby committed direct infringement under Section 271(a), the patent owner ordinarily must prove that the defendant has performed all of the steps of the process. The Federal Circuit has recognized, however, that when two or more parties commit "divided infringement" (Pet. App. 2a-3a)[1] by collectively performing all of the steps of a patented process, a court may hold one of the parties liable under Section 271(a) if the acts of the other party are attributable to him under common-law vicarious-liability principles. See generally *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), cert. denied, 556 U.S. 1105 (2009).[2]

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[1] Unless otherwise noted, all references to "Pet." and "Pet. App." are to the petition and appendix in No. 12-786.

[2] By its nature, the "divided infringement" problem will arise only when the relevant patented invention is a "process" rather

Although the scope of that liability has evolved over time, the governing rule in the Federal Circuit is that "where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'" *Muniauction*, 532 F.3d at 1329; see *BMC Res., Inc.* v. *Paymentech, L.P.*, 498 F.3d 1373, 1379-1381 (Fed. Cir. 2007). The "control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method." *Muniauction*, 532 F.3d at 1330; see *Golden Hour Data Sys. Inc.* v. *emsCharts, Inc.*, 614 F.3d 1367, 1371, 1373, 1380-1381 (Fed. Cir. 2010) (finding insufficient evidence of control or direction where parties had an arms'-length "strategic partnership").

2. Akamai Technologies, Inc. (Akamai) is the exclusive licensee of the patent at issue in this case, known as the '703 patent, which claims a method of structuring websites and their supporting servers that allows the sites to handle internet traffic more efficiently. Pet. App. 101a-104a. The method involves placing some elements of a content provider's website onto supporting servers and altering the provider's

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than a "machine, manufacture, or composition of matter." 35 U.S.C. 101. "In the case of a product claim, the party that adds the final element to the combination 'makes' the infringing product and thus is liable for direct infringement even if others make portions of the product." Pet. App. 25a. By the same token, a person who (acting with the requisite scienter) "actively induces" another to add that "final element" and thereby "make" the patented product can be held liable under Section 271(b).

website so that it is able to access the elements that have been stored on the supporting servers. *Ibid.*

In 2006, Akamai brought this infringement action against Limelight Networks (Limelight). Pet. App. 104a-105a. Akamai alleged that Limelight had performed some of the steps of Akamai's patented process and had caused Limelight's customers—website content providers—to perform the remaining steps of choosing elements to outsource and tagging them as instructed by Limelight. *Id.* at 105a-106a. A jury found that Limelight had not established that the '703 patent was invalid and that Limelight had infringed the patent. *Id.* at 105a.

The district court granted Limelight's motion for judgment as a matter of law, concluding that Akamai had not established that Limelight had directly infringed the '703 patent. Pet. App. 181a-194a. The court concluded that the performance by Limelight's customers of certain steps of the '703 patent could not be attributed to Limelight under *Muniauction* because establishing the requisite "direction or control requires something more than merely a contractual agreement to pay for a defendant's services and instructions or directions on how to utilize those services." *Id.* at 190a.

3. A panel of the court of appeals affirmed. Pet. App. 100a-135a. The panel held that "there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps." *Id.* at 112a. The panel concluded that Limelight and its customers lacked the requisite agency or contractual relationship. *Id.* at 113a-117a.

4. The Federal Circuit granted rehearing en banc.[3] The court reversed the district court's ruling that Limelight was not liable for infringement and remanded for further proceedings.

a. The court of appeals held that this case "and cases like [it] can be resolved through an application of the doctrine of induced infringement." Pet. App. 3a. Specifically, the court held that a party that performs some steps of a patented process and actively induces another to commit the remaining steps may be liable for inducement of infringement under Section 271(b), even though no party in that scenario would be liable for direct infringement under Section 271(a).[4] *Id.* at 9a.

The court of appeals acknowledged the "well settled" principle that "there can be no indirect infringement without direct infringement." Pet. App. 8a (citing *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 526 (1972)). The court concluded, however, that "requiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer," and that the

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[3] For purposes of the en banc proceedings, the court of appeals consolidated this case with *McKesson Technologies, Inc.* v. *Epic Systems Corp.*, No. 2010-1291, which raised similar issues. Pet. App. 4a-5a. After the en banc court issued its decision, the parties in the *McKesson* case sought this Court's review, but then settled the case while their certiorari petitions were pending. The petitions were dismissed under Sup. Ct. R. 46. 133 S. Ct. 1520 (2013) (No. 12-800); *id.* at 1521 (No. 12-970).

[4] The court found it unnecessary "to revisit" its precedents concerning the circumstances under which parties who commit divided infringement may be liable for direct infringement under Section 271(a). Pet. App. 6a.

latter is not required. *Id.* at 9a. The court reasoned that if a party has "knowingly induced others to commit the acts necessary to infringe" the patent, "there is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement." *Ibid.*

The court of appeals concluded that its holding was "entirely consistent" with the text of Section 271(b). Pet. App. 10a. That provision requires that a defendant knowingly induce "infringement." 35 U.S.C. 271(b). In the court of appeals' view, "[n]othing [in Section 271(b)] indicates that the term 'infringement' * * * is limited to 'infringement' by a single entity." Pet. App. 10a. Rather, the court explained, the term "infringement" in Section 271(b) "appears to refer most naturally to the acts necessary to infringe a patent." *Ibid.* The court found additional support for its construction in legislative-hearing testimony by Giles Rich, a primary author of the Patent Act of 1952, ch. 950, 66 Stat. 792 (35 U.S.C. 1 *et seq.*), as well as in certain tort-law doctrines and criminal statutes that, in the court's view, contemplated that someone who induces wrongful conduct may be liable even if the primary actor is not. Pet. App. 10a-19a.

The court of appeals accordingly remanded the case to the district court to permit Akamai to attempt to demonstrate that "(1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content providers in fact performed that final step." Pet. App. 29a-30a.

b. Judge Linn, joined by Judges Dyk, Prost, and O'Malley, issued a dissenting opinion. Pet. App. 69a-99a. Judge Newman issued a separate dissent. *Id.* at 31a-68a. Both dissenting opinions argued that a party "induces infringement" under Section 271(b) only when the induced conduct itself constitutes direct infringement under Section 271(a), such that there is a potentially liable direct infringer. *Id.* at 49a-52a (Newman, J.); 71a-90a (Linn, J.).

With respect to liability for direct infringement under Section 271(a), Judge Linn would have held that a party may be directly liable when he performs some steps of the process and the performance of the remaining steps can be imputed to him through principles of vicarious liability. Pet. App. 92a-96a. Judge Newman proposed permitting direct liability whenever parties have performed the steps of a process "in collaboration or interaction." *Id.* at 45a-46a.

DISCUSSION

This Court should grant Limelight's petition for certiorari (No. 12-786). The court of appeals erred in holding that a defendant who performs some steps of a patented method and who induces another party to perform the remaining steps may be liable for active inducement of infringement under Section 271(b) even though no party has directly infringed the patent under Section 271(a). This Court's review of that question is warranted to avert a significant expansion of the scope of inducement liability (and a corresponding increase in burdensome litigation) that is not justified under a proper understanding of Section 271.

The Court should deny Akamai's conditional cross-petition (No. 12-960). There is no reason at this time for the Court to review the circumstances in which a

party may be liable for direct infringement when two or more parties perform the steps of a process. The Federal Circuit's overarching approach to that question—employing traditional common-law principles to determine when one person's conduct may be attributed to another—is correct, and the court did not revisit that approach in the decision below.

I. DIVIDED INFRINGEMENT PRESENTS SUBSTANTIAL PROBLEMS OF STATUTORY INTERPRETATION AND PATENT POLICY, AND THE PATENT ACT AS CURRENTLY DRAFTED MAY NOT PROVIDE A COMPLETE SOLUTION

The Federal Circuit's decision in this case reflects a considered effort to address the difficult issues that arise when two or more parties, acting without the authorization of the patent owner, collectively perform all the steps of a patented process. Divided infringement can occur in a variety of circumstances, including when one party directs or controls the actions of another, cf. *BMC Res., Inc.* v. *Paymentech, L.P.*, 498 F.3d 1373, 1375 (Fed. Cir. 2007); when two parties collaborate in the context of an arms'-length cooperative arrangement, *Golden Hour Data Sys. Inc.* v. *emsCharts, Inc.*, 614 F.3d 1367, 1369 (Fed. Cir. 2010); or when (as here) a vendor offers a service in which the vendor performs some steps of the process and instructs its customers on how to perform the rest. In each circumstance, the process has been performed, and sound reasons of patent policy may support holding one or more parties liable.

Before this case, the Federal Circuit had addressed divided infringement exclusively under the rubric of direct infringement. The Federal Circuit's most recent decisions were correct to apply traditional princi-

ples of vicarious liability to determine when one party's performance of certain process steps may be attributed to another, rendering the latter liable for direct infringement under Section 271(a). That approach imposes direct infringement liability in situations in which "one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'" *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008), cert. denied, 556 U.S. 1105 (2009). That framework does not reach cases such as this one, in which the vendor instructs its subscribers how to perform the process's remaining steps but they are not contractually or otherwise obligated to do so. Pet. App. 115a-116a. Nor should courts attempt to devise patent-specific rules of vicarious liability in order to bring such scenarios within the coverage of Section 271(a). Cf. *eBay Inc.* v. *MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (in the context of injunctive relief in patent infringement actions, "a major departure from the long tradition of equity practice should not be lightly implied") (citation omitted).

Perhaps because the Federal Circuit recognized the limitations of Section 271(a) in addressing cases like this one, the court turned instead to inducement liability under Section 271(b). That approach has intuitive force. As a matter of patent policy, there is no obvious reason why a party should be liable for inducing infringement when it actively induces another party to perform all the steps of the process, but not liable when it performs some steps and induces another party to perform the rest. On the other hand, the Federal Circuit's approach creates a significant

anomaly—namely, that a party may be liable for "actively induc[ing] infringement," 35 U.S.C. 271(b), even though there is no potentially liable direct infringer. The Federal Circuit's construction of Section 271(b) is also inconsistent with the most straightforward reading of the statutory text and unsupported by background legal principles. See pp. 11-16, *infra*.

The Federal Circuit's inducement holding should accordingly be reversed. Doing so will likely permit vendors such as Limelight to avoid liability altogether, as inducement liability will not be available and traditional principles of vicarious liability would not support attributing customers' voluntary actions to the vendor for purposes of direct-infringement liability. That statutory gap is unfortunate, but it reflects the better reading of the current statutory language in light of established background principles of vicarious liability. If the current provisions of Section 271 do not deal adequately with the relatively new phenomenon in which multiple parties collectively practice the steps of a patented method, the authority and responsibility for filling any perceived statutory gap belongs to Congress rather than the courts. See *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 452, 456-458 (2007) (stating that a potential "loophole" in 35 U.S.C. 271(f) "is properly left for Congress to consider, and to close if it finds such action warranted").

II. THE COURT SHOULD GRANT THE PETITION IN NO. 12-786 AND HOLD THAT A PARTY CANNOT BE LIABLE FOR INDUCEMENT UNDER 35 U.S.C. 271(b) IF NO PARTY HAS DIRECTLY INFRINGED THE PATENT

A. The Court Of Appeals' Decision Is Incorrect

1. Under the court of appeals' decision, a defendant who performs some steps of a process and induces another to perform the rest may be liable for "actively induc[ing] infringement," 35 U.S.C. 271(b), even though no person has "infringe[d] the patent" within the meaning of Section 271(a). That holding is inconsistent with the text and structure of the Patent Act, and is unsupported by background principles of tort and criminal liability.

a. Section 271(a) defines the acts that constitute direct infringement by providing that "whoever without authority makes, uses, offers to sell, or sells any patented invention * * * infringes the patent." 35 U.S.C. 271(a). Section 271(a) is "a declaration of what constitutes infringement in the present statute." S. Rep. No. 1979, 82d Cong., 2d Sess. 8 (1952); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 9 (1952) (*House Report*). Under Section 271(a), infringement of a patented method occurs when a defendant "uses" the method by performing all its steps. *NTP, Inc.* v. *Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005), cert. denied, 546 U.S. 1157 (2006).

Sections 271(b) and (c) define two types of secondary liability. The inducement liability provision at issue here, Section 271(b), states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. 271(b). The "infringement" to which Section 271(b) refers is the con-

duct defined in Section 271(a) as "infring[ing] the patent." 35 U.S.C. 271(a). To be liable under Section 271(b), then, a person must "actively induce" conduct that constitutes "infringement." If the induced conduct is not itself infringing, then the alleged inducer has not induced "infringement," and he cannot be liable under Section 271(b). Put another way, a person cannot be liable under Section 271(b) for "induc[ing] infringement" unless he has induced a second person to commit direct infringement, for which that person could be liable under Section 271(a).

Section 281 of the Patent Act supports that construction of Sections 271(a) and (b). Section 281 provides that "[a] patentee shall have remedy by civil action for infringement of his patent." 35 U.S.C. 281. That provision uses the term "infringement" to refer to a violation of law for which some party can be held civilly liable. The court of appeals, by contrast, held that "direct infringement as a predicate for induced infringement" can exist even though no "single party would be *liable* as a direct infringer," Pet. App. 9a, on the theory that the term "infringement" in Section 271(b) "appears to refer most naturally to the acts necessary to infringe a patent," *id.* at 10a. The court thus construed the term "infringement" in Section 271(b) to encompass primary conduct (the collective performance by different actors of all steps of a patented process) that does not violate the law and does not give rise to any civil remedy.

b. On several occasions, this Court has made statements that suggested or presupposed that a completed act of direct infringement is necessary before a party can be liable for secondary infringement. Although none of those statements addressed

the specific question presented here, they reflect a background understanding inconsistent with the expansive view of inducement liability that the court below adopted.

In *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336 (1961), the Court considered whether Aro, a company that sold replacement fabric for use with a patented convertible car roof, was liable for contributory infringement under Section 271(c). That provision defines contributory infringement as, *inter alia*, the knowing sale of a component for use in an "infringement" of a patent. *Id.* at 337-338, 340. The Court held that Aro's sale of the replacement fabric could "constitute contributory infringement under [Section] 271(c), if, but only if, such a replacement by the purchaser himself would in itself constitute a *direct* infringement under [Section] 271(a), for it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement." *Id.* at 340-341. The Court further explained that Section 271(c) "defines contributory infringement in terms of direct infringement," and that "[Section] 271(a) of the new Patent Code * * * defines 'infringement.'" *Id.* at 341-342. Thus, "if the purchaser and user could not be amerced as an infringer certainly one who sold to him * * * cannot be amerced for contributing to a non-existent infringement." *Id.* at 341 (citation omitted).

Similarly, in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), this Court held that Deepsouth was not liable for contributory infringement arising from its sale of the parts of a patented machine because the assembly and use of the machine was to occur outside the United States, beyond the

reach of the Patent Act. *Id.* at 523, 526-527. The Court stated that "there can be no contributory infringement without the fact or intention of a direct infringement," and "[i]n a word, if there is no [direct] infringement of a patent there can be no contributory infringer." *Id.* at 526 (quoting *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, 677 (1966) (Frankfurter, J., dissenting on other grounds)). The Court has likewise stated in the copyright context that "[i]n addition to intent to bring about infringement and distribution of a device suitable for infringing use, the inducement theory of course requires evidence of actual infringement by recipients of the device." *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster Ltd.*, 545 U.S. 913, 940 (2005).

Most recently, in *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060 (2011), the Court considered whether Section 271(b) requires the defendant to have *known* that the conduct he induced constituted infringement. In explaining that the text of Section 271(b) could reasonably be construed in either of two ways, the Court stated that the provision "may require merely that the inducer lead another to engage in conduct that happens to amount to infringement," or may require "that the inducer must persuade another to engage in conduct that the inducer knows is infringement." *Id.* at 2065 & n.2. The Court's articulation of those alternatives presupposed that the conduct being induced must *in fact* constitute direct infringement.

2. In concluding that a defendant may be liable for inducing infringement even in the absence of conduct that itself constitutes direct infringement, the court of appeals relied in part on tort and criminal law second-

ary liability principles. Those principles, however, do not support the conclusions the court of appeals drew from them.

The court of appeals relied (Pet. App. 16a) on Section 877(a) of the Restatement (Second) of Torts (1979), which provides that a person is liable for "harm resulting to a third person from the tortious conduct of another" if he "orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own." That provision, the court of appeals emphasized, contemplates that an inducer may be liable even if the induced actor would not be (for instance, because he lacks the requisite intent). Pet. App. 16a. The Restatement does not support the court's holding, however, because Section 877(a) requires that the induced conduct be "tortious" if committed by the inducer. See also Restatement (Second) of Torts § 876 (similarly requiring "the tortious conduct of another"). Under the court of appeals' construction of Section 271(b), by contrast, the induced conduct—performing some but not all steps of a patented process—does not in itself constitute infringement.

For the same reason, the criminal-law provision identified by the Federal Circuit, 18 U.S.C. 2(b), is inapt. Pet. App. 15a. That provision, similar to Restatement § 877(a), prohibits willfully "caus[ing] an act to be done which if directly performed [by the defendant] or another *would be an offense against the United States*." 18 U.S.C. 2(b) (emphasis added); see Pet. App. 86a-87a (Linn, J., dissenting). As the dissenting judges below observed (*id.* at 84a-87a), moreover, the criminal statute that is textually most similar to Section 271(b) is 18 U.S.C. 2(a), which provides in

relevant part that whoever "induces" the "commission" of "an offense against the United States" is "punishable as a principal." That provision requires that an underlying criminal "offense" have been committed—such that the person who commits it would be liable—before a defendant can be guilty of inducing that offense. See *Central Bank of Denver, N.A.* v. *First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 181 (1994).[5]

3. The court of appeals' reliance on the testimony of Judge Giles Rich during a 1948 hearing on the proposed legislation that became the 1952 Patent Act is also misplaced. See Pet. App. 12a-14a. In that testimony, Rich stated that "[w]hen two people combine and infringe a patent in some way or other, they are joint tort feasors, and it so happens that patents are often infringed by people acting in concert, either specifically or by implication, when neither one of them is a direct infringer." *Contributory Infringement: Hearings on H.R. 3866 Before Subcomm. No. 4 of the House Comm. on the Judiciary*, 81st Cong., 1st Sess. 3 (1950) (*H.R. 3866 Hearings*); see *Contributory Infringement in Patents: Hearings on H.R. 5988, H.R. 4061, and H.R. 5248 Before the Subcomm. on Patents, Trade-marks, and Copyrights of the House Comm. on the Judiciary*, 80th Cong., 2d Sess. 5 (1948) (discussing situations in which "there is obvious in-

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[5] Crimes such as conspiracy do not require an underlying offense, but only because they are so defined by statute. See, *e.g.*, 18 U.S.C. 371 ("If two or more persons conspire * * * to commit any offense against the United States, * * * and one or more of such persons do any act to effect the object of the conspiracy, each shall be" punished.). Section 271(b), by contrast, requires a predicate infringement.

fringement of the patent," even though "there is no direct infringer of the patent but only two contributory infringers").

Although the court of appeals inferred from these statements that Judge Rich "viewed indirect infringement as an available remedy even in the absence of any single direct infringer," Pet. App. 14a, the testimony does not meaningfully clarify *Congress's* intent in enacting Section 271. Indeed, Judge Rich made other statements suggesting that induced infringement under Section 271(b) requires that the induced conduct itself constitute direct infringement. See *H.R. 3866 Hearings* 5 (for there to be contributory infringement, "[s]omewhere along the line there must be a direct infringement"); *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the House Comm. on the Judiciary*, 82d Cong., 1st Sess. 151 (1951) ("[W]herever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed.").

4. Finally, the court of appeals drew support from two pre-1952 Seventh Circuit decisions, but there is no evidence that Congress intended to codify those decisions in the 1952 Patent Act. In *Peerless Equipment Co.* v. *W.H. Miner, Inc.*, 93 F.2d 98, 105 (1937), cert. denied, 303 U.S. 641 (1938), and *Solva Waterproof Glue Co.* v. *Perkins Glue Co.*, 251 F. 64, 73-74 (1918), the court of appeals held, with little explanation, that a party could be liable for contributory infringement if it performed some steps of a patented process and sold the resulting product, knowing that the buyer would use the product to perform the remaining steps. In both cases, however, the court's method-claim

holding was not necessary to subject the defendant to liability, as each defendant was also held liable for indirect infringement of product claims. See *Peerless Equip.*, 93 F.2d at 105; *Solva Waterproof Glue*, 251 F. at 73-74. And in any event, one of Congress's purposes in enacting Section 271(b) and (c) in the 1952 Patent Act was to "eliminate" the "[c]onsiderable doubt and confusion as to the scope of contributory infringement [that] has resulted from a number of decisions of the courts in recent years." *House Report* 9. Absent some indication that Congress knew of and intended to codify the Seventh Circuit's understanding of inducement liability, those rulings do not support the decision below.[6]

B. The Question Presented In No. 12-786 Is Important, And This Court's Review Is Warranted

1. The Federal Circuit's decision substantially alters the doctrine and scope of patent infringement liability. Before the decision below, a party could be liable under Section 271(b) only if he had induced another actor to commit acts that themselves consti-

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[6] The court of appeals also cited a post-1952 decision, *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1567 (Fed. Cir. 1983). Pet. App. 28a. *Fromson* involved both product claims (photographic printing plates) and method claims (the process for creating the printing plates). The Federal Circuit observed in dicta that, where the defendant's customers completed the final step of the patented process to create the patented plates, the defendant "cannot be liable for direct infringement with respect to those plates but could be liable for contributory infringement." 720 F.3d at 1568. But the Federal Circuit did not specify whether it believed the defendant might be liable for contributory infringement of the product claim (which the defendant's customers would have directly infringed by completing the plates) or of the method claim. *Ibid.*; see note 2, *supra*.

tuted direct infringement. In turn, direct liability for infringing a patented process could be imposed under Section 271(a) only when a single actor was responsible for performing each of the process's steps, either because he had personally performed that step or because another actor's performance of the step could be imputed to him under established common-law tort principles of vicarious liability. See pp. 8-9, *supra*.

As a result of the decision below, parties who have ordered their conduct based on their understanding of the pre-*Akamai* state of the law may now face potential liability for inducing infringement. Companies in a wide range of industries—including the information technology, financial services, biotechnology, and wireless network industries—may be affected by the decision. See, *e.g.*, Pet. App. 4a; *id.* at 34a n.1 (Newman, J., dissenting); *BMC Res., Inc.*, 498 F.3d at 1375; *Golden Hour Data Sys. Inc.*, 614 F.3d at 1369; Tony Dutra, *Akamai/McKesson Inducement Rule Affects Wide Range of Industries, Practitioners Say*, BNA Patent, Trademark & Copyright Law Daily (Sept. 7, 2012), http://www.bna.com/akamaimckesson-inducement-rule-n17179869600/. Because the Federal Circuit's decision gives rise to the prospect of expanded liability and increased litigation across a range of industries, this Court should grant review to determine whether the Federal Circuit's expansion of the scope of inducement liability rested on an incorrect construction of Section 271.[7]

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[7] As Akamai observes (Br. in Opp. 29-31), Section 271(b)'s scienter requirement limits the circumstances in which a party may be liable for inducement under the Federal Circuit's decision. Under Federal Circuit precedent, a party who has performed some steps of a process and induced others to perform the rest, but who is

2. This case is a suitable vehicle to resolve the question presented. Although the decision is interlocutory (see 12-786 Br. in Opp. 10-13), this Court's immediate review is warranted because the petition presents an "important and clear-cut issue of law" that "would otherwise qualify as a basis for certiorari" and "is fundamental to the further conduct of the case." Eugene Gressman et al., *Supreme Court Practice* 283 (10th ed. 2013) (citing cases). The further proceedings in this case, in which the parties will litigate whether Limelight is liable under Section 271(b), will not shed further light on, or affect the Court's ability to review, the legal question whether a party can be liable under Section 271(b) in the absence of a direct infringer. By resolving the issue now, this Court would bring certainty to the many parties potentially affected by the decision, before they have been subjected to the uncertainty and potentially burdensome litigation that may result from the decision.

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unaware of the patent or possesses a good-faith belief that the parties' conduct is non-infringing, cannot be found liable under Section 271(b). See *Commil USA, LLC* v. *Cisco Sys., Inc.*, 720 F.3d 1361, 1366-1369 (2013). But while that scienter requirement will limit the circumstances in which defendants are ultimately held liable under the Federal Circuit's theory, it does not alter the fact that the court of appeals has expanded the range of conduct that may serve as the basis for a claim of induced infringement. See Pet. 31 n.6; Pet. Reply Br. 2-3 & n.1. And once such suits are filed, the scienter requirement may not shield defendants from extensive litigation, as the question of the defendant's knowledge may not be susceptible to pre-trial resolution. See, *e.g.*, *In re Bill of Lading Transmission and Processing Sys. Patent Litig.*, 681 F.3d 1323, 1341 (Fed. Cir. 2012).

III. THE PETITION IN NO. 12-960 SHOULD BE DENIED

Akamai contends (12-960 Pet. 2-4) that, if this Court grants review to consider the Federal Circuit's inducement holding, the Court should also consider the proper framework for addressing divided infringement under Section 271(a). In its prior decisions, the Federal Circuit has correctly relied on established principles of vicarious liability to determine when joint performance of a patented method may be attributed to a single party for purposes of direct infringement under Section 271(a). Because the decision below did not further refine the court's approach to divided infringement under Section 271(a), review of that question is not warranted at this time.

"Infringement [of a patent], whether direct or contributory, is essentially a tort." *Carbice Corp. of Am.* v. *American Patents Dev. Corp.*, 283 U.S. 27, 33 (1931). "[T]he Court has assumed that, when Congress creates a tort action, it legislates against a legal background of ordinary tort-related vicarious liability rules and consequently intends its legislation to incorporate those rules." *Meyer* v. *Holley*, 537 U.S. 280, 285 (2003). Accordingly, the Federal Circuit's overarching approach to Section 271(a) liability for divided infringement is the correct one: the court permits liability "in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method." *Muniauction*, 532 F.3d at 1330; Pet. App. 92a (Linn, J., dissenting) ("Our 'divided infringement' case law is rooted in traditional principles of vicarious liability.").

In this case, the court of appeals granted rehearing en banc to consider, *inter alia*, whether it should alter

its approach to divided infringement under Section 271(a). See No. 2009-1372 Docket entry No. 64, at 2 (Apr. 20, 2011). The court's holding with respect to inducement liability obviated the need to address the appropriate scope of direct liability under Section 271(a).[8] Pet. App. 3a, 6a. The court's grant of en banc review on the Section 271(a) question may suggest, however, that the court will in the future continue to refine the application of established common-law attribution principles to particular instances of divided infringement. See, *e.g.*, *id.* at 94a-95a (Linn, J., dissenting) (discussing application of tort-law principles to direct infringement).[9]

The Federal Circuit's general approach to joint infringement—its reliance on traditional vicarious-liability principles—is sound. To the extent that the court of appeals may wish to refine that framework in the context of the manifold factual scenarios in which

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[8] The court of appeals stated in passing that "the trial court correctly held that Limelight did not direct and control the actions of the content providers as those terms have been used in this court's direct infringement cases." Pet. App. 30a. The court did not elaborate on that observation, however, and the question of direct infringement will remain open on remand if this Court reverses the Federal Circuit's holding on inducement liability.

[9] Contrary to Akamai's contention (12-960 Pet. 3), the questions presented in the two petitions are not "inextricably intertwined." The question presented in Limelight's petition concerns the interpretation of the phrase "actively induces infringement of a patent" in Section 271(b), whereas the question presented in Akamai's petition involves the application of vicarious-liability principles to the direct-infringement tort defined by Section 271(a). The questions are also independent: the Court can resolve whether Limelight may be liable for inducement without considering whether, or in what circumstances, it would also be liable for direct infringement.

joint performance of patented methods arises, it should be permitted to do so in the first instance. See, *e.g.*, *BMC Res., Inc.*, 498 F.3d at 1375; *Golden Hour Data Sys. Inc.*, 614 F.3d at 1369. This Court may then consider whether review is warranted in a future case in which, unlike this one, the court of appeals has addressed the application of the doctrine to the facts presented.

CONCLUSION

The petition for a writ of certiorari in No. 12-786 should be granted. The conditional cross-petition for a writ of certiorari in No. 12-960 should be denied.

Respectfully submitted.

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DECEMBER 2013

AMICUS CURIAE BRIEF

Nos. 12-786, 12-800

Supreme Court, U.S.
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RECORD AND BRIEFS

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondent.

EPIC SYSTEMS CORP.,

Petitioner,

v.

MCKESSON TECHNOLOGIES, INC.

Respondent.

ON PETITIONS FOR WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICI CURIAE* ALTERA CORPORATION, HTC CORPORATION, HTC AMERICA, INC., SMUGMUG, INC. AND WEATHERFORD INTERNATIONAL IN SUPPORT OF PETITIONERS

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STATEMENT OF INTEREST OF *AMICI CURIAE*[1]

Altera Corporation is a publicly traded company headquartered in San Jose, California. Altera, founded in 1983, is the pioneer of programmable logic solutions, enabling system and semiconductor companies to rapidly and cost effectively innovate, differentiate, and win in their markets. HTC Corporation is a publicly traded company headquartered in Taiwan. Its U.S. subsidiary, HTC America, Inc., is based in Bellevue, Washington. HTC produces powerful smartphones that continually push the boundaries of innovation to provide true mobile freedom. SmugMug, Inc. is a privately-held family business located in Mountain View, California that provides customers (both amateur and professional photographers) a platform for uploading photographs to a virtual gallery. Weatherford International is a publicly traded company with locations around the world. It is one of the largest global providers of advanced products and services that span the drilling, evaluation, completion, production and intervention cycles of oil and natural gas wells.

Amici are innovative leaders in a variety of technology fields. They pursue patent protection for their technology, endeavor to respect the intellectual property rights of

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1. In accordance with Supreme Court Rule 37.6, *amici* state that this brief was not authored, in whole or in part, by counsel for a party, nor did such counsel or a party make a monetary contribution intended to fund the preparation or submission of this brief. No person other than the *amici* or their counsel made any such monetary contribution. Each of the parties have been given at least 10 days notice of *amicis*' intention to file. All of the parties have filed blanket waivers except Donald Dunner whose consent is being submitted herewith.

others, and support a strong patent system in which patent claims truly serve their important public notice function by allowing a business to ascertain whether any planned product or service is within or outside of claim boundaries. Each of the *amici* can reasonably evaluate the business risks associated with its current or planned products or services, but that task becomes speculative and unfair if it also needs to assess risk as its products or services flow downstream to unrelated and multiple third parties. Simply stated, *Akamai* has significantly undermined the notice function of claims and substantially impacted the ability of *amici* to make reasoned business decisions. *Amici* have a strong interest in having the Court restore the business predictability that existed prior to *Akamai*. *Amici* thus file their brief in both *Limelight Networks, Inc., v. Akamai Technologies, Inc.*, No. 12-786, and *Epic Systems Corp. v. McKesson Technologies, Inc.*, No. 12-800.

SUMMARY OF ARGUMENT

The per curiam majority opinion in *Akamai* made a fundamental and improper revision to patent law, eliminating the statutory requirement that inducement infringement liability can only be triggered under §271(b) if an actor is liable for direct infringement under §271(a). Under *Akamai*, so long as multiple actors, each independently performing steps in the public domain, cumulatively perform all of the steps in a method patent claim, a third party can be liable for inducement infringement. *Akamai* is premised on the perceived "unfairness" of allowing a hypothetically "guilty" party to escape liability by intentionally dividing the steps of a method claim with or among innocent third party actors. *Akamai*, however, ignores the existing ways to hold

a guilty party responsible without unfairly punishing businesses which have relied on the public notice function of patent claims. Slip Op. at 26-27 (Linn, J., dissenting).

The majority in *Akamai* seemingly offer the "intent" component of induced infringement under §271(b) as a shield for an innocent actor which fairly acts, blissfully unaware of any patent issue. Slip Op. at 14. Yet, the intent component provides no practical protection in view of even pre-*Akamai* decisions holding that service of a complaint for induced infringement is sufficient to provide the requisite knowledge of the asserted infringement, and thus meeting the intent threshold.

Parties with no pre-suit awareness of a patent, and long selling a product or offering a service that does not itself infringe a method claim, now find themselves defending against accusations that they are liable for inducing infringement—merely for not ceasing their longstanding business conduct when they were sued. This is the post-*Akamai* reality even though such parties began the accused activity in good faith and promptly responded to complaint-based infringement accusations by pursing good faith defenses of patent invalidity and/or non-infringement. The resulting costs (both monetary and business distraction) to protect existing investments made in good faith are an unfair penalty on the business community. The knowledge of these known costs is also a powerful negotiating weapon, particularly in patent infringement suits brought by patent plaintiffs with no assets other than the asserted patent (commonly known as "non-practicing entities").

Petitioners Limelight and Epic Systems fairly explain the fatal legal flaws in the majority *Akamai* opinion, and *amici* will not repeat those arguments. Suffice it to note that in dramatically and impermissibly changing the law, *Akamai* has shifted enormous risk onto businesses (and hence the public)—all because a few patent owners have had litigation-induced second thoughts about the claims they sought and obtained from the Patent & Trademark Office. Businesses, including *amici*, are left to speculate at their peril about how their products or services might be used by multiple third parties outside of an agency relationship. *Akamai* significantly undermines the ability of businesses to make informed business decisions as to whether to invest in new products or services. The holding in *Akamai* reflects bad public policy and interferes with predictable competition, in addition to being contrary to proper construction of 35 U.S.C. § 271.

ARGUMENT IN SUPPORT OF PETITIONERS

The *en banc* decision of the Federal Circuit undermines the notice function of claims by imposing inducement liability even in the absence of any direct infringement liability. Moreover, the "intent" component of inducement is an illusory shield for an innocent actor accused of induced infringement for unrelated multi-actor conduct. In creating new law to protect a few patent owners from intentional claim drafting decisions, the Federal Circuit has interfered with the ability of businesses to make reasoned investment decisions and also subjected businesses to unpredictable lawsuits based on independent third-party activity.

I. *AKAMAI* UNDERMINES THE IMPORTANT PUBLIC NOTICE FUNCTION OF CLAIMS AND ENCOURAGES ABUSIVE INFRINGEMENT CLAIMS

A. Supreme Court and Federal Circuit Decisions Identify Public Notice as an Important Function of Patent Claims

This Court has recognized the important public notice function of patent claims since the 1800s. In *Merrill v. Yeomans*, 94 U.S. 568 (1877), in the course of construing the one claim in issue, the Court announced:

> The developed and improved condition of the patent law, and of the principles which govern the exclusive rights conferred by it, leave no excuse for ambiguous language or vague descriptions. **The public should not be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights.** The genius of the inventor, constantly making improvements in existing patents,—a process which gives to the patent system its greatest value,—should not be restrained by vague and indefinite descriptions of claims in existing patents from the salutary and necessary right of improving on that which has already been invented.

Id. at 573 (emphasis added). Nine years later, the Court reiterated the important public interest served by the requirement of precisely defined claims. *See White v. Dunbar*, 119 U.S. 47 (1886). The *White* Court observed

that "[t]he claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; **and it is unjust to the public**, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *Id.* at 52 (emphasis added); *accord McClain v. Ortmayer*, 141 U.S. 419, 424 (1891) (object of statutory language obligating inventors to "particularly point out and distinctly claim" is "to secure to [the patentee] all to which he is entitled, **but to apprise the public of what is still open to them**") (emphasis added).

This important public policy continues to be reflected in more recent decisions. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), identified "the importance of uniformity in the treatment of a given patent among the reasons for allocating all issues of construction to the court." *Id.* at 390. As support for this premise, the *Markman* Court quoted *Merrill* for the public notice role served by claims, stating that otherwise, "[t[he public [would] be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights." *Id.* (alterations in original) (quoting *Merrill*, 94 U.S. at 573); *see also Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 30 (1997) (expressing confidence that "the doctrine [of equivalents] will not vitiate the central functions of the patent claims themselves.").

Indeed, the Federal Circuit has recognized that one important reason for this public policy is so that a business can determine from the patent claims its potential for liability. *See, e.g., IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (a claim

combining two separate statutory classes of invention "is not sufficiently precise to provide competitors with an accurate determination of the 'metes and bounds' of protection involved," because "a manufacturer or seller of the claimed apparatus would not know from the claim whether **it might also be liable . . . because a buyer or user** of the apparatus later performs the claimed method of using the apparatus.") (Emphasis added.) Concern for this important policy, although directly implicated, is absent from the majority opinion in *Akamai*.

B. Public Notice is Important in the Real World

One critical purpose of the public notice function of claims is so that a business about to invest significant resources in a new product or service can reasonably deal with the patent landscape as part of an overall risk-reward evaluation. *IPXL Holdings*, 430 F.3d at 1384. Indeed, this is a routine and longstanding business practice.[2] Such an analysis is difficult even when it is limited to the manufacturer's own conduct.[3] Imposing on a business the additional obligation to speculate correctly about potential future uses by a third-party buyer or user is unreasonable and unfair. *Cf. id.* The policy implicated by this facet of public notice is illuminated by a simple question: Who

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2. "[B]efore a manufacturer takes steps to put a new product on the market or otherwise undertakes the expense of using in-plant technology for commercial purposes, a search will frequently be made to determine whether there may be an infringement of a U.S. patent or patents." E. Kintner & J. Lahr, *An Intellectual Property Law Primer* 61 (2d ed. 1982).

3. "Patent attorneys probably have nightmares about such topics as these . . . ." *Id.*

should bear the burden of risk when no one party commits, and thus is liable for, direct infringement—the patentee, who had an opportunity to craft the claim in a way to cover single-actor liability, or the public (*viz.*, competitors)? The analysis of the relative burdens imposed on the public and the patentee in this context dictates the answer to that policy question.[4]

It often happens that a company sells a product, or offers a service, which by itself does not infringe, to third parties for their own unrestricted use or resale. *Amici* offer four real world examples, involving (1) "smartphones," (2) integrated circuits, (3) modern "cloud" computing services, and (4) chemicals. In the case of "smartphones," third parties often develop (or acquire) and offer their own "apps" to "smartphone" end users. The end users, in turn, independently select which (if any) of these "apps" to add to their "smartphones." Integrated circuits sometimes are sold in an unprogrammed state and are subsequently configured by third-party users of the devices. Other integrated circuits are sold pre-programmed to perform a spectrum of generic functions and are incorporated into larger systems by third-party customers. Many companies in the computing services field offer generic services such as data processing, data storage and/or retrieval, and data transmission. Other companies (*e.g.*, end users) write software programs that may perform tasks ranging from behind-the-scene computer management to manipulation of specific data,

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4. Several *amici* involved in the *en banc* decision, including most of those on this brief, showed the Federal Circuit how easily the *Akamai* and *McKesson* claims could have been transformed to capture single actor liability.

using the infrastructure or generic services offered by the computing services provider. Third-party purchasers of chemicals often maintain their planned uses of the materials, and/or the details of such uses, as trade secrets. *See, e.g.*, E. Kintner & J. Lahr, *An Intellectual Property Law Primer* 139-41 (2d ed. 1982). As a result, suppliers often will not have information on which they can determine whether the third-party purchaser's use may implicate the supplier in a claim for infringement.

In each instance, *amici* and other service providers or vendors cannot reasonably assess their risk of being sued for infringement based on unknown or independent conduct of multiple third parties which need not communicate to the service provider or vendor the details of their uses of the product or services. Yet that is exactly the unquantifiable new burden imposed on *amici* and others by the holding in *Akamai*. Simply stated, it is unfairly burdensome to impose upon *amici*, or upon any vendor or service provider, the burden of predicting when, and under what circumstances, its non-infringing conduct might be transformed into infringing conduct as an unintended consequence of an arms-length transaction with one or more independent actors.

By contrast, only minimal burden is imposed on a patentee to draft claims in such a way that they do not implicate divided infringement. A patentee can ordinarily structure a claim to create infringement liability for single-party conduct—if that is the patentee's real goal. *See Mark A. Lemley et al., Divided Infringement Claims*, 33 AIPLA Q.J. 255, 272-75 (2005). The majority in *Akamai*, however, simply ignored this least-burdensome solution. The answer to the question posed above is clear:

Patent owners have a simple and cost-efficient way to avoid the need for the convoluted, unpredictable and legally inappropriate infringement theory created by the *Akamai* majority.

The *Akamai* majority apparently believed that the intent component of inducement infringement liability would protect innocent businesses against the increased legal exposure their new law created. As explained below, even pre-*Akamai* Federal Circuit decisions, ignored by the panel majority, show that such protection is illusory.

C. The Intent Component of Inducement Liability is an Illusory Shield Against Litigation Gamesmanship, Abuse and Inequity

The majority opinion contrasts inducement and direct infringement liability. In pertinent part, it explains that unlike direct infringement, induced infringement is not a strict liability tort. The accused inducer must act with knowledge that the induced acts constitute patent infringement. Slip Op. at 14. This intent component is the apparent linchpin for the majority's subsequent reliance on the aiding and abetting provision in the Federal Criminal Code, Slip Op. at 21-23, and on the rule imposing liability of inducement of a tort by a party unaware that its act is injurious. *Id.* at 24. In short, the majority's perceived safety net is premised on the assumption that only those with specific intent to infringe a patent can be potentially liable for inducement infringement. Conversely, those lacking the requisite bad intent allegedly are not at risk for inducement infringement liability.

Insofar as the *Akamai* majority perceived the "intent" component of inducement to be a fair and meaningful safeguard for innocent conduct, it is wrong. Consider the common situation where the first notice a business has of a patent is when it is served with a patent infringement complaint. One might reasonably believe that in the absence of pre-suit knowledge, this business could not be liable for inducement infringement – but one would be wrong in so thinking. Pre-*Akamai* cases held that complaints for inducement infringement stated valid causes of action even though the accused party's first notice of the patent (and thereby "knowledge") was not until service of the complaint. *See, e.g., In re Bill of Lading Transmission and Processing System Patent Litigation*, 681 F.3d 1323, 1342 (Fed. Cir. 2012); *accord Intellect Wireless Inc. v. Sharp Corp.*, No. 10 C 6763, 2012 U.S. Dist. LEXIS 31669, at *33 (N.D. IL. March 9, 2012); *Walker Digital, LLC v. Facebook, Inc.*, CIV. 11-313-SLR, 2012 WL 1129370, at *5 n.11 (D. Del. April 4, 2012); *Symantec Corp. v. Veeam Software Corp.*, 2012 U.S. Dist. LEXIS 75729, at *15 (N.D. CA. May 31, 2012).

Intent is an illusory shield if an innocent business suddenly becomes "guilty" because, when served with a complaint, the business does not immediately cease the allegedly improper activity, but instead engages counsel to conduct an investigation and mounts a good faith defense to protect the significant business investment already incurred against an inducement claim from out of nowhere. That *Akamai* consequence is unfair, hopefully unexpected by the majority, and creates new opportunities for litigation gamesmanship.

Business risk was manageable when inducement required that a single actor be liable for direct infringement. *Akamai* has multiplied the burdensome nature of the risk by expanding liability to encompass a party which had no knowledge of a patent prior to the filing of suit, where no entity is liable for direct infringement, and where the ultimate issue of intent is a fact not easily resolved on summary judgment. *See, e.g., Kinetic Concepts, Inc. v. Blue Sky Medical Group, Inc.*, 554 F.3d 1010, 1024-25 (Fed. Cir. 2009) (affirming denial of JMOL on intent); *Intellect Wireless*, 2012 U.S. Dist. LEXIS 31669 (E.D. IL. 2012) (granting summary judgment of no direct infringement, but denying summary judgment of no inducement infringement based on lack of intent evidenced by the defense in the case.)

Intent is not an appropriate dividing line given the ease with which it is pleaded in every case, and the *Akamai* majority badly skewed the risk-reward balance in discarding the longstanding requirement of direct liability as a condition precedent to inducement liability. The *Akamai* majority concocted this dramatic change to obviate an unsupported (and likely unsupportable) problem, namely that this change was needed because bad actors were intentionally dividing up method steps to avoid direct infringement.

Akamai inducement law also created opportunities for significant litigation mischief that will further burden businesses, all as a consequence of shifting the burden of poor claim drafting or intentional (but regretted) claim decisions from the patent owner to the public. This change allows patent plaintiffs, often shell entities holding no asset except the asserted patent, a unique

opportunity to impose a toll on legitimate businesses that otherwise will be required to waste the cost of litigation, and divert executive time and other company resources, to mount an appropriate defense. In pertinent part, patent owners often propose in litigation unexpected (and ultimately unsupportable) claim construction positions. *Cf. Markman*, 517 U.S. at 384 (confirming claim construction is a question of law for the court.)

Eliminating the requirement that some entity is liable for directly infringing makes it that much more difficult to identify potential patent infringement risks before a business invests substantial resources in a new product or service. As the Federal Circuit elsewhere explained, in the real world, "a manufacturer or seller of [a] claimed apparatus would not know from the claim whether it might also be liable . . . because a buyer or user of the apparatus later performs the claimed method of using the apparatus." *IPXL Holdings*, 430 F.3d at 1384.

Moreover, patent owners have already begun to assert inducement liability under § 271(b) in lieu of contributory infringement under § 271(c) against sellers of a material or apparatus for use in practicing a patented process. Liability for contributory infringement under 35 U.S.C. § 271(c) only arises if the product being sold by the accused contributory infringer is "a material part of the invention," the accused party knows it "is especially made or especially adapted for use in an infringement of such patent," and if the product is "not a staple article or commodity of commerce suitable for substantial noninfringing use." *Id.* Furthermore, liability for contributory infringement requires that an actor be liable for direct infringement. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365

U.S. 336, 341 (1961). The new *Akamai* cause of action is already becoming popular, since it allows plaintiffs to avoid pleading and proving the extra requirements of § 271(c) and in the absence of any person liable for direct infringement. The intent component of inducement infringement provides no meaningful protection against litigation mischief.

CONCLUSION

In view of the foregoing, *amici curiae* request that the petition for certiorari be granted and that the *en banc* decision in *Akamai* be vacated.

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AMICUS CURIAE BRIEF

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Nos. 12-786 & 12-800

In The
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., *ET AL.*

EPIC SYSTEMS CORPORATION,
Petitioner,

v.

MCKESSON TECHNOLOGIES, INC.

On Petitions for Writs of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF CTIA—THE WIRELESS ASSOCIATION, CONSUMER ELECTRONICS ASSOCIATION, AND METROPCS WIRELESS, INC. AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether a defendant may be held liable for inducing infringement of a patent that no one is liable for directly infringing.

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ON PETITIONS FOR WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF CTIA—THE WIRELESS ASSOCIATION, CONSUMER ELECTRONICS ASSOCIATION, AND METROPCS WIRELESS, INC. AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

INTEREST OF *AMICI CURIAE*[1]

CTIA—The Wireless Association is an international nonprofit organization that represents the wireless communications industry. CTIA's members include hundreds of network providers, suppliers, manufacturers, providers of data services and products, and other contributors to wireless services. CTIA regularly files briefs as *amicus curiae* in cases presenting issues of importance to the wireless industry. *See, e.g.*, *AT&T Mobility LLC v. Concepcion*, 131 S. Ct. 1740 (2011); *Stolt-Nielsen S.A. v. Animalfeeds Int'l Corp.*, 130 S. Ct. 1758 (2010).

MetroPCS Wireless, Inc. is the fifth largest wireless mobile broadband communications provider in the country, based on number of customers served.

The Consumer Electronics Association is a nonprofit association uniting 2,000 companies within the consumer technology and wireless industries.

Amici are concerned that the Federal Circuit's ruling will unfairly subject wireless mobile broadband communications providers and their suppliers to unwarranted litigation and threats of liability for activities that have been considered innocent and non-infringing since at least the enactment of the Patent Act, 35 U.S.C. §§ 1 *et seq.*, 60 years ago. In *amici*'s view, the Federal Circuit's

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[1] This brief is filed with the written consent of all parties through either universal or individual letters of consent on file with the Clerk. No counsel for either party authored this brief in whole or in part, nor did any party or other person make a monetary contribution to the brief's preparation or submission.

decision will encourage poorly drafted patents and destabilize patent law. *Amici* accordingly file this brief to underscore the debilitating effects the ruling could have for innovative industries and the imperative of this Court's prompt review.

SUMMARY OF ARGUMENT

By the slimmest of margins, the en banc Federal Circuit has overturned decades of settled patent law governing induced infringement. As petitioners explain, that rule of inducement without actual infringement lacks any grounding in statutory text, and it contravenes settled precedent.

While all agree that there is no such thing as collective direct infringement of a patent by independent parties, under the Federal Circuit's new legal regime, a single party can be held liable for *inducing* just such collective infringement. The profound consequences that new liability rule portends necessitate this Court's immediate review. For businesses like network providers that offer a vital platform for linking together other independent businesses and customers, the Federal Circuit's crabbed new legal regime exposes them to induced infringement allegations for the *innocent and independently non-infringing* conduct of those third parties, even though the aggregating providers have no authority, control, or capacity to direct those parties' actions. And those third parties, in turn, engage in the innocent activity of offering non-infringing services and products to equally innocent and non-infringing consumers.

The Federal Circuit nevertheless has ruled that two non-infringing rights can make a wrong. As the five dissenting judges explained, that works an extraordinary upheaval in patent law with significant adverse consequences for the many businesses that provide the connective network for others to bring innovative and in-demand services and products to the public. That sea change is unnecessary, moreover, because the patentee, as master of its claims, is already well-equipped to address problems of infringement by multiple parties through careful claims drafting.

ARGUMENT

I. THE FEDERAL CIRCUIT'S DISTORTION OF LONG-ESTABLISHED LIABILITY RULES INVITES COSTLY LITIGATION OVER OFTEN INNOCENT CONDUCT

The Federal Circuit has turned patent law upside down by holding that defendants can be held liable for inducing infringement even though no direct infringement ever occurred. That novel rule of liability was adopted en banc without briefing or argument focused on the legal principles of inducement liability. Indeed, in Limelight Networks' case, no claim of inducement was pressed at trial at all. Pet. App. 30a.[2] The decision thus was made without the court of appeals' comprehensive consideration of the extraordinarily harmful consequences to innovation and the stability of

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[2] "Pet. App." refers to the petition appendix in No. 12-786.

patent law that its inducement-only rule of liability has wrought. In particular, the rule that a single party can now be held liable for the non-infringing actions of multiple independent third parties over which it has no control, authority, or responsibility threatens companies with lengthy, resource-consuming litigation and potentially crippling liability for conduct that they have no practical capacity to avert and that, until now, has always been deemed innocent and non-infringing.

Because the Federal Circuit adopted this troubling and erroneous rule of law en banc, only this Court can correct its newly minted theory of second-hand liability without any first-hand infringement.

A. The Federal Circuit's Rule Of Law Is Wrong And Contrary To This Court's Precedent

CTIA concurs with both petitioners' explanation of the magnitude of the Federal Circuit's departure from statutory text, *see* 35 U.S.C. §§ 271(a), & (b), precedent, and long-settled liability principles, as well as the urgent need for this Court's correction.

1. Until the decision in this case, the law drew a careful balance in divided infringement suits by holding a defendant liable for the infringing conduct of multiple parties only when those actions were carried out under the defendant's direction or control. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007). But the law did not hold a defendant responsible for actions involving multiple independent actors where the party lacked the capacity to control the third parties and where no

single direct act of infringement occurred. *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008). Those principles built on the foundational rule that infringement "requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention." *BMC*, 498 F.3d at 1380; *see Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 771, 774-775 (Fed. Cir. 1993) ("A method claim is *directly* infringed only by one practicing the patented method.").

The law of this Court was equally well settled that liability for indirect infringement mapped onto those same rules: "[I]f there is no direct infringement of a patent there can be no contributory infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961); *see Joy Techs.*, 6 F.3d at 774 ("Liability for either active inducement of infringement or for contributory infringement is dependent upon the existence of direct infringement."). Accordingly, absent a direct infringement by a single actor, as a matter of law, a patentee could not demonstrate *inducement* of infringement either. *See Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1277 (Fed. Cir. 2004) ("Dynacore's failure to prove direct infringement *** necessarily dooms its allegations of indirect infringement[.]").

Indeed, this Court's precedent was explicit: "'[I]f the purchaser and user could not be amerced as an infringer certainly one who sold to him *** cannot be amerced for contribution to a non-existent infringement.'" *Aro*, 365 U.S. at 341 (quoting *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S.

661, 674 (1944) (Roberts, J. dissenting)); *see also Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011) (inducer must "lead another to engage in conduct that *** amount[s] to infringement"); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972) (the patent law "defines contributory infringement in terms of direct infringement").

2. The Federal Circuit's new "inducement-only" infringement theory turned its back on that precedent. Patentees no longer need to show either that the defendant directly infringed or that the defendant controlled one or more third parties who infringed. Indeed, no proof that direct infringement occurred is required at all. Instead, it is enough that the defendant somehow "'aid[s]'" or "'cause[s]'" any number of independent third parties to take steps, innocent in their own right, that would have constituted direct infringement *if, and only if, they had been taken together by a single person*. Pet. App. 8a-9a. To be clear, that means a defendant can be sued for inducing patent infringement (i) when no individual actually committed direct infringement, (ii) based on the accumulated actions of third parties—including customers, *id.* at 4a, (iii) over which the defendant had no control. *See id.* at 31a (Newman, J. dissenting) (criticizing majority's rule permitting liability for "merely advising or encouraging acts that may constitute direct infringement" if performed by one actor).

"Broadening the doctrine of inducement, such that no predicate act of direct infringement is required, is a sweeping change to the nation's patent

policy," Pet. App. 80a (Linn, J. dissenting), and has "greatly enlarged [the] grounds" for liability, *id.* at 31a (Newman, J., dissenting). The fallout is particularly harmful for individuals and companies, like the *amici* network providers, that make products or provide services that aggregate the operations and activities of multiple actors. Given this Court's and the Federal Circuit's longstanding contrary precedent, such a dramatic reworking of patent liability principles "is not for th[e] [Federal Circuit] to make." *Id.* at 80a (Linn, J., dissenting).

That is especially true because Congress has left the relevant statutory text and precedent "untouched" for decades, *Microsoft Corp. v. i4i L.P.*, 131 S. Ct. 2238, 2252 (2011), including in recent amendments to the Patent Act, *see* Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011). "The fact that Congress was aware of" Federal Circuit precedent when it passed this Act indicates that it "did not intend to abrogate the single entity rule for direct infringement, or broaden indirect infringement liability beyond its intentionally limited scope." Pet App. 83a (Linn, J., dissenting).

B. The *Akamai* Decision Threatens Vastly More And Costlier Litigation Against Wireless Network Providers

The Federal Circuit's displacement of settled infringement law has flung open the courthouse doors to a new theory for lawsuits and claims of inducement liability. Plaintiffs who cannot meet the calibrated and balanced criteria for direct divided

infringement claims—*i.e.*, actual direct infringement, authority or control—can now simply reframe their claims as inducement. *See* Mark Janis & Timothy Holbrook, *Patent Law's Audience*, 97 MINN. L. REV. 72, 119-120 (2012) (post-*Akamai*, "many future [divided infringement] cases *** will be framed as inducement cases"). Given the wireless industry's distinctive role in bringing together and interconnecting customers, service providers, hardware makers, and product creators, the fallout for the wireless industry from the Federal Circuit's decision will be particularly severe.

1. High-Tech Innovation In The Wireless Industry

The Federal Circuit's decision has intruded a misguided rule of patent law into one of the fastest-growing, most inventive, and highly productive segments of the United States' economy. *See* FCC, FIFTEENTH ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO MOBILE WIRELESS, INCLUDING COMMERCIAL MOBILE SERVICES ("FCC Report") 13-14 (2011). Today there are more than 320,000,000 wireless subscriber connections in the United States. *See* CTIA, WIRELESS QUICK FACTS, *available at* http://www.ctia.org/advocacy/research/index.cfm/aid/10323. Indeed, due to business requirements and multiple-device consumers, the number of U.S. connections has now surpassed the number of Americans. *See id.*

Almost 100 million Americans, or 42% of all U.S. mobile subscribers, use smartphones. comScore,

2012 MOBILE FUTURE IN FOCUS 7 (2012). These modern devices allow users not only to talk, but also to text, surf the Internet, play games, obtain needed information on demand, and enjoy individually tailored web services nationwide. *See* FCC Report ¶ 5.

A "mobile wireless ecosystem" provides the expansive infrastructure that enables individuals to do more with their handheld devices than ever before, connecting the "various parts of the supply and production network that bring thousands of mobile wireless products to Americans every day." FCC Report ¶ 5. The state-of-the-art technology connecting customers to the wireless ecosystem has both upstream (network) and downstream (consumer) components. On the upstream side are the core infrastructure elements—the towers, equipment, and backend technology that provide the connections on which voice, messaging, and data services can run—as well as various third-party providers who offer location tracking and other services over the wireless networks. Downstream consumer devices connect to the networks, while software and mobile programs called "apps" enable the devices to access the networks and provide a broad diversity of rich and tailored user experiences. The recent explosion in cloud computing has added yet another dimension to the modern wireless ecosystem.

Providing platforms for all of those complex and distributed technologies and capabilities are the wireless network providers who "offer mobile voice, messaging, and/or data services using their own

network facilities." FCC Report ¶ 26. These providers do not always design the technology behind the network infrastructure or employ the diverse array of developers, vendors, contractors, and other affiliates who help implement it. Instead, the network providers implement published standards and protocols to encourage interoperability of the systems, and provide capital and guidance to foster seamless nationwide coverage. Similarly, the providers generally do not design or manufacture the "more than 630 different handsets and devices" available to U.S. customers, nor do they develop more than a handful of the "more than 1.9 million apps available on more than 11 operating systems from 27 different non-carrier stores." CTIA, THE WIRELESS INDUSTRY FACTS: AN INDEPENDENT REVIEW (2010), *available at* http://files.ctia.org/pdf/082010_Independent_Assessment_of_Wireless_Industry.pdf.

The decentralized and competitive nature of the wireless ecosystem fosters innovation and technology development. Although they are independent entities, network providers, device manufacturers, and software application and content developers interact cooperatively and (subject to industry standards) are free to design, implement, test, and innovate as they see fit. As a result, network providers interact daily with thousands of vendors, contractors, and developers, and millions of customers. These cooperative interactions, moreover, ultimately yield lower costs and enhanced services for the ever-growing demands of wireless customers.

2. The Need for Clear and Calibrated Patent Rules

For industries focused on "complex product technologies" like wireless communications, "it is common for there to be hundreds of patentable elements in one product." Stephen Merrill *et al.*, National Academy of Sciences, A PATENT SYSTEM FOR THE 21ST CENTURY 37 (2004) ("Academy Report"). That is because each device or network "typically contain[s] many different components or features that are themselves covered by patents." FTC, THE EVOLVING IP MARKETPLACE 90 (2011) ("2011 FTC Report"). Wireless providers "must license thousands of patents to provide any one consumer product," and "if they miss a single high-tech horseshoe nail, a whole network may be threatened." Michael Heller, THE GRIDLOCK ECONOMY: HOW TOO MUCH OWNERSHIP WRECKS MARKETS, STOPS INNOVATION, AND COSTS LIVES 154 (2008).

That phenomenon of "densely overlapping patent rights held by multiple patent owners" is known as a "patent thicket." 2011 FTC Report at 56; *see* FTC Chairwoman Deborah Platt Majoras, A GOVERNMENT PERSPECTIVE ON IP AND ANTITRUST LAW 7 (2006) ("Majoras Remarks"), *available at* www.ftc.gov/speeches/majoras/060621aai-ip.pdf. Such thickets create a "dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology." Carl Shapiro, INNOVATION POLICY AND THE ECONOMY 120 (Adam Jaffe, *et al.* eds., 2001). Network providers cannot avoid such a thicket given the interconnective nature

of the services provided and the involvement of multiple actors and technologies in every transaction. For them, "there is often no economically feasible way, prior to making sunk investments, to identify and obtain rights to all the relevant patented technologies." Majoras Remarks at 7.

That patent thicket often leads to lawsuits, including increasingly by "non-practicing entities" that hold patents but do not produce any associated product or services. *See eBay, Inc. v. MercExchange, LLC*, 547 U.S. 388, 396 (2006) (Kennedy, J., concurring) (some firms "use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees"); 2011 FTC Report at 58-60 (companies "reported a dramatic increase in the number of patent infringement lawsuits filed against their companies compared to seven to ten years ago" because of non-practicing entities). Indeed, the extraordinary growth in patent litigation in recent years is "almost entirely attribut[able]" to such entities. *Id.*; *see also* PricewaterhouseCoopers, 2012 PATENT LITIGATION STUDY 6 (2012), *available at* http://www.pwc.com/en_US/us/forensic-services/publications/assets/2012-patent-litigation-study.pdf.

"Patent infringement litigation has not only increased dramatically in frequency over the past few decades, but also has also seen striking growth in both stakes and cost." John Allison, *et al.*, *Patent Litigation and the Internet*, 2012 STAN. TECH. L. REV. 3, 1 (2011); Academy Report at 68 (same). The escalation of both the "cost and uncertainty of patent litigation" is demonstrated by the fact that

"litigations typically take several years to complete, if appealed may be remanded more than once, and can cost several million dollars." S. Rep. No. 259, 110th Cong., 2d Sess. 3-4 (2008); *see id.* at 4 n.12 ("Where more than $25 million is at stake, the median litigation cost is $4 million for each party"). Litigation leads to indirect costs too, including "premature settlements simply to avoid the high cost and uncertainty of patent litigation." *Id.* at 4.

The telecommunications industry is a frequent bearer of those costs. "The most litigated patents are far more likely to be software and telecommunications patents, not mechanical or other types of patents." John Allison, *et al.*, *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PENN. L. REV. 1, 103 (2009); *see id.* at 118 ("34% of the most litigated patents are in the telecommunications industry").

3. The Federal Circuit's Decision Deprives Business of Stability and Predictability in Patent Law

Under the Federal Circuit's new rule of inducement-only patent infringement, the same wireless ecosystem that has made rapid and revolutionary advancements in wireless technology and services possible now is at risk of becoming a target-rich environment for patent litigators. Those businesses are now vulnerable to a host of potential patent infringement charges and lawsuits arising out of the combination of their own *non-infringing*—simply interconnecting—conduct with the *non-*

infringing conduct of multiple third parties over which they exercise neither control nor authority.

Indeed, in just the few short months since the Federal Circuit's decision, numerous district courts have permitted plaintiffs to amend their complaints to add inducement claims. *See, e.g., Prism Technologies, LLC v. McAfee, Inc.*, No. 8:10CV220, 2012 WL 5385210 (D. Neb. Nov. 1, 2012); *Transunion Intelligence LLC v. Search America, Inc.*, No. 11-1075 PJS/FLN (D. Minn. Nov. 7, 2012). Other courts have reconsidered grants of summary judgment, *see, e.g., Civix-DDI, LLC v. Hotels.Com, LP*, No. 05 C 6869, 2012 WL 5383268 (N.D. Ill. Nov. 1, 2012), and have denied motions to dismiss, *see, e.g., Driessen v. Sony Music Entm't*, No. 2:09-CV-0140-CW, 2012 WL 5293039 (D. Utah Oct. 23, 2012). At least one district court decision has already been reversed for "founding its indirect infringement analysis on a single-entity requirement." *Travel Sentry, Inc. v. Tropp*, No. 2011-1023, 2012 WL 5382736, at *9 (Fed. Cir. Nov. 5, 2012). Such rulings indicate *Akamai*'s "retroactive effect" on "lawsuits filed by patent owners who could not prove joint direct infringement before but will now have a chance of succeeding with an inducement charge." Tony Dutra, *Akamai/McKesson Inducement Rule Affects wide Range of Industries, Practitioners Say*, BLOOMBERG BNA, Sept. 7, 2012.

The en banc decision now renders a network provider a target for induced infringement claims precisely because it is the nexus that connects every user of any technology on the wireless ecosystem. No longer restrained by the need to prove direct

infringement by a single actor, plaintiffs can now subject companies to the enormous burdens of litigation simply by alleging that the wireless networks brought together product suppliers, service providers, and customers—none of whom individually infringed. Instead, their disaggregated actions are collectively alleged to have practiced the patent without any superintending control, direction, or authorization by the network providers.

Once begun, that litigation will be harder to end as well, regardless of its merits, under the Federal Circuit's new rules. Under prior precedent, accused infringers could often "resolve the case early, on a quick summary judgment motion or even a Rule 12(b)(6) motion," especially if "the requirement that multiple parties be involved [was] *** apparent from the face of the claim itself." Mark Lemley, *et al.*, *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 279-284 (2005); *see, e.g., IpVenture, Inc. v. Cellco P'ship*, No. C 10-04755 JSW, 2011 WL 207978, at *3 (N.D. Cal. Jan. 21, 2011) (dismissing inducement claim against Sprint and AT&T because "Plaintiff has failed to allege a third party who directly infringes the patent").

But now "the fact that no single entity performs all of the steps in a patented method does not resolve the issue of indirect infringement." *Voter Verified Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1384 n.5 (Fed. Cir. 2012). Instead, cases will turn on such discovery-requiring and potentially trial-intensive questions as knowledge, *see Global-Tech*, 131 S. Ct. at 2068. The result will be costly discovery involving multiple actors, based solely on

allegations of mental state which are "'easy to allege and hard to disprove.'" *National Archives & Records Admin. v. Favish*, 541 U.S. 157, 175 (2004) (quoting *Crawford-El v. Britton*, 523 U.S. 574, 585 (1998)).

Still more untenably, the *only* entities that will face claims under the Federal Circuit's new inducement-only theory in divided infringement cases are the alleged inducers, who will often be network providers and others offering platforms for new technologies, and not the actual perpetrators of the allegedly collectively infringing conduct. *See* Pet. App. 31a (Newman, J. dissenting). Indeed, the third parties whose collective actions allegedly accomplished a would-be-if-done-by-one-person infringement cannot be sued at all because whatever it was they were induced to do, it was not an actual direct infringement. *See* Pet. App. 54a-55a (Newman, J. dissenting) (noting the litigation anomalies and "uncertainties" surrounding the decision). That is the type of "dramatic change[] in the law of infringement" that merits this Court's prompt review. Pet. App. 31a (Newman, J. dissenting).

That anomalous outcome was not driven by precedent, statutory text, or even logic as a sensible means of apportioning liability in divided infringement scenarios. It instead reflects the Federal Circuit's choice to "avoid the result of some patentees having technically valid but valueless claims," Pet. App. 74a (Linn, J., dissenting), even though the inevitable consequence is that those patentees will "target *** the deep-pocket commercial participant," *Id.* at 59a (Newman, J., dissenting).

That was the factual scenario in *McKesson*. *See id.* at 60a ("[N]either the patient who accesses his medical records, nor the healthcare provider who assembles and provides the records, was sued. Only the licensor of the system software was sued[.]"). And it is what is continuing to happen in the district courts since the Federal Circuit's decision. *See, e.g., Helferich Patent Licensing, LLC v. Legacy Partners, LLC*, No. CV-11-2304-PHX-NVW, 2013 WL 68610 at *5 (D. Ariz. Jan. 7, 2013) (under *Akamai*, "the fact that [plaintiff] is pursuing a theory of induced infringement against Nissan for the collective actions of Nissan and the social media companies does not render the social media companies liable for indemnification").

To be sure, many of those inducement-of-infringement claims should ultimately fail on the merits because "induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement" or willful blindness. *Global-Tech*, 131 S. Ct. at 2068. While lower courts are in the midst of developing that standard's contours, *Global-Tech* indicates that induced infringement should require at a minimum both a company's specific knowledge of *and* intent to infringe a patent that it believes to be valid. "[I]t is not reasonable to assume that merely because a defendant is aware of the existence of a patent, he intended to infringe it. He may believe the patent invalid, believe he has successfully designed around it, or simply not think it covers what he is helping another to do." Mark A. Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV. 225, 243 (2005). Thus, in the wireless

industry, where independent third parties make "the decision of how to design or make" the networks, devices, software, and apps, the network provider will not have "intend[ed] to cause an act that turns out to be infringing." *Id.* at 242.

But even if *Global-Tech*'s knowledge requirement is properly applied, it may often rest on questions of fact that commonly survive dispositive motions, clogging the courts and burying companies in needless and expensive litigation over multitudes of claims that are ultimately destined to fail. Furthermore, a "lack of the requisite intent and knowledge" would still leave the alleged inducers at risk of being "subject to an injunction [i]f they continue activity after the suit is filed." Janis & Holbrook, 97 MINN. L. REV. at 119 n.167. The possibility of such an injunction "and the potentially serious sanctions arising from its violation, can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent." *eBay*, 547 U.S. at 396 (Kennedy, J., concurring).

That the Federal Circuit's expansive new inducement theory will spawn many lawsuits that ultimately prove to be without merit underscores the urgent need for this Court's review. Because the Federal Circuit has exclusive jurisdiction and has adopted this rule en banc, the only thing that will percolate if this Court's review is delayed is the increased patent litigation costs, lengthened trials, and growth in nuisance settlements. *See* John Allison, *et al.*, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 707-09

(2011) (while non-practicing entities have a very low success rate at trial, they have a 90% success rate in obtaining what are believed to be nuisance settlement payments). Nothing will be gained and much will be worse by leaving aggregator businesses to litigate and settle even meritless claims for conduct that, since the Patent Act's inception in 1952, has been considered innocent and non-infringing.

II. THE FEDERAL CIRCUIT'S EXPANSIVE INDUCED INFRINGEMENT RULE WILL ENCOURAGE OVERBROAD CLAIM DRAFTING

The Federal Circuit's decision "effectively rewrites" the plain text of the Patent Code "to accord patentees certain extended rights" that they have never had before, without any congressional sanction or encouragement. Pet. App. 69a (Linn, J., dissenting); *see id.* ("In its opinion today, this court assumes the mantle of policy maker."). Because of the dispersed nature of product development and use for network-based industries, the Federal Circuit's decision will have an outsized effect on patents that relate to telecommunications, a field that is already plagued by poorly defined patent claims. Before a change of such substantial consequence befalls the patent world and the Nation's interconnective economy, this Court's review should be afforded.

A. Until *Akamai*, The Requirement Of Direct Infringement For Inducement Liability Imposed Limitations On Claim Drafting

One of the fundamental prerequisites for obtaining a patent is that the applicant identify the invention's scope with terms "particularly pointing out and distinctly claiming the subject matter" of the invention. 35 U.S.C. § 112(b). Because the patent right is defined by the words of the patent claims, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373-374 (1996), the requirement that claims be clearly delimited operates as a crucial limitation on the patentee's exclusive rights. "In patent law, unlike in other areas of tort law—where the victim has no ability to define the injurious conduct upfront—the patentee specifically defines the boundaries of his or her exclusive rights in the claims appended to the patent and provides notice thereby to the public to permit avoidance of infringement." Pet. App. 96a (Linn, J., dissenting).

Clarity regarding the scope of existing patent rights is vitally important for efficient investment in the commercialization of network technologies because it is provides the backdrop for critical business decisions about licensing patent rights, challenging the validity of patents, or avoiding the claimed technology. Unfortunately, many aspects of the patent rights that affect the wireless industry (and other information technology industries) are anything but clear and definite. Patent rights in high-tech fields are often "without well-identified claim boundaries, with virtually no implementation

details, and with few clues about the quality of claim implementation." Robert Thomas, *Debugging Software Patents: Increasing Innovation and Reducing Uncertainty in the Judicial Reform of Software Patent Law*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 191, 217-218 (2008-2009). Patent notice principles function especially "poorly" in industries like telecommunications, 2011 FTC Report at 78, in part because of the enormous number of overlapping patents that apply to a single wireless product or service.

Until now, one anchor in that sea of uncertainty was the limitation on who could be charged with infringement of a claim. The scope of the patentee's right to exclude was therefore clear: as long as no single actor (or actors under the direct control of some other entity) performed all the steps of a claim, there was no infringement and thus no liability. *See Muniauction*, 532 F.3d at 1329; *BMC*, 498 F.3d at 1380. Thus, whatever the ambiguity in claim language, the public could freely practice some (but not all) steps of a patent, which promoted the continued development of competitive products and services. *See* 2011 FTC Report at 1 ("The patent system's exclusive right promotes innovation, but so too does competition, which drives firms to produce new products and services in the hope of obtaining an advantage in the market.").

For similar reasons, until now, the patent applicant, who controls the words of the patent claims, appropriately carried the burden of defining the claimed invention to capture direct infringement. *See* Pet App. 96a (Linn, J., dissenting). Focusing

those claims on a single actor was administrable because "[a] patentee can usually structure a claim to capture infringement by [a] single party." *See id.* (citing *BMC*, 498 F.3d at 1381). That burden, moreover, was appropriately placed on the patent applicant to provide proper notice in situations involving complicated claims that could potentially be performed by multiple actors. "[T]he claim drafter is the least cost avoider of the problem of unenforceable patents due to joint infringement." *Id.* at 96a.

B. *Akamai*'s Inducement-Only Rule Threatens To Reduce Innovation And Encourage Poorly Drafted Patents

The Federal Circuit's "sweeping change" to the scope of induced infringement actions, Pet App. 80a (Linn, J., dissenting), will have repercussions generally and, in particular, throughout the wireless industry.

First, the new liability rule will have a dramatic effect on planning and investment in future products and services. Patents that claim methods the steps of which are carried out by multiple actors now pose a serious threat to the network provider that provides a platform for bringing those disparate actors together. Those providers are now in the crosshairs of suits over would-be infringements they neither undertook nor had any meaningful capacity to control. The Federal Circuit's decision thus has saddled the network providers with the impossible task of either predicting and monitoring the actions of diverse, independent actors for the collective performance of a patented method, or paying

plaintiffs for the consequences of independent third parties' actions. To operate under that unhealthy legal regime, any given company may be forced to increase the prices consumers pay to offset the significant costs attending efforts to avoid inducement-only claims, to restrict the introduction of innovations that potentially fall within uncertain patent boundaries, or to "drop[] innovative or productive efforts altogether." 2011 FTC Report at 77. In each case, development in the industry and services for customers will suffer. *See id.* 78-79 (unintentional infringements "increase expected costs, reducing firms' incentives to pursue innovative projects, *** caus[ing] firms to reduce spending on R&D").

Second, the Federal Circuit's new regime puts the burden of monitoring and evaluating activities that could potentially lead to induced infringement claims on the parties least able to carry it. For claims that require the actions of multiple actors, the actors themselves may avoid liability because no single entity will be carrying out each and every step. *See* Pet. App. 54a-55a (Newman, J. dissenting). Thus, those who actually carry out the individual steps (and understand the details of what they are doing) have no incentive to avoid doing so. Instead, the network provider, who will typically not have all the information about steps carried out by applications or operating systems, will alone face the induced infringement claims. The enormous number of applications, operating systems, and services on any network makes this result unavoidable, as "even

massive efforts might not reliably clear all relevant patents." 2011 FTC Report at 77-78.

Even if those cases where a provider could determine whether an application (for example) carries out certain steps of a patented method, the network provider typically will have a very limited business relationship with those service providers, like the more than 100,000 "app" developers on the iTunes and Google Play stores. *See, e.g.*, TechNet, WHERE THE JOBS ARE: THE APP ECONOMY (2012), *available at* http://www.technet.org/wp-content/uploads/2012/02/TechNet-App-Economy-Jobs-Study.pdf. Moreover, some—perhaps many—service providers will not be able to offer indemnification at all due to their small size or resource limitations. The increased transaction costs accompanying such negotiations may quickly suffocate any economic benefit from making the service available on the network and stifle innovation as well.

By contrast, the patentee has complete control over how its claims are drafted and can write them to capture different actions by different actors. The prospective patentee thus is far better positioned to address the complexities of claims involving multiple parties. *See* Pet. App. 96a (Linn, J., dissenting). If required to direct claims to single actors, the patentee can still fully protect its interests in a way that network providers simply cannot.

Third, the Federal Circuit's decision rewards vague and overbroad patent drafting. Due to the requirements for demonstrating direct infringement, patent applicants previously were advised to draft

patents that focused on the steps that could be carried out by a single party, lest they end up with "technically valid but valueless" patents. Pet. App. 74a (Linn, J., dissenting). But now the prospect of induced infringement liability without any proof of actual direct infringement has given applicants specific incentives to *expand* their patent claims to add steps directed to (for example) commercial applications involving a broad spectrum of third parties (*e.g.*, a step regarding "use on a telecommunications network"), for no reason other than to preserve inducement-only claims against wireless network providers and every other potential player in multiple-party use of a system. The Federal Circuit has thus blessed the broad drafting of patent claims to capture such difficult-to-avoid multi-actor claims. Simply put, the Federal Circuit was "unwise to overrule decades of precedent in an attempt to enforce poorly-drafted patents." Pet. App. 96a (Linn, J., dissenting).

* * * * *

The Federal Circuit's decision works an upheaval in settled patent infringement law without any direction from Congress, anchor in statutory text, or sound reason for stultifying growth and innovative developments in a vital corner of the national economy. If patent law is to be changed so dramatically as to expose platform providers to suit simply for connecting an interconnective world and responsible for the innocent conduct of independent actors over whom they have no control, that should happen only after this Court's or Congress's careful consideration. A 6 to 5 vote of the Federal Circuit on

a legal question only tangentially briefed to it is an unsound basis for visiting such significant costs on the patent system and those businesses that depend on its stability.

CONCLUSION

For the foregoing reasons, the petitions for writs of certiorari should be granted.

Respectfully submitted.

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February 1, 2013

AMICUS CURIAE BRIEF

RECORD AND BRIEFS

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Nos. 12-786 & 12-800

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC., *Petitioner*

v.

AKAMAI TECHNOLOGIES, INC., ET AL., *Respondents*

EPIC SYSTEMS CORP., *Petitioner*

v.

MCKESSON TECHNOLOGIES, INC., *Respondents*

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF GOOGLE, INC.; CISCO SYSTEMS, INC.; ORACLE CORP.; RED HAT INC.; SAP AMERICA INC.; SYMANTEC CORP.; XILINX, INC. AS *AMICI CURIAE* IN SUPPORT OF PETITIONER

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INTERESTS OF *AMICI CURIAE*[1]

Amici Curiae are leading businesses and innovators in information technology industries. The goods and services they provide comprise numerous subsidiary components and operate amid complex supply and distribution chains. For example, some *amici* provide software products, such as operating systems, that comprise the platform to support communication between networks of hardware components like mobile phones, tablets, and personal computers. Other *amici* provide hardware products over which the majority of all IP-based network traffic travels.

As holders and licensees of numerous patents, *amici* are well aware of the import of effective patent protection. However, *amici* are also frequently the subject of threatened and actual patent litigation, including frivolous or abusive claims brought in hopes of coercing lucrative settlements. As participants on both sides of the caption in substantial patent litigation, *amici* are interested in ensuring that patent law is interpreted in a manner consistently with the letter and the intent of the law and in a manner that is fundamentally fair to both sides.

Amicus Google Inc. is a global technology leader whose mission is to organize the world's information and make it universally accessible and useful for individuals and business. Google's products, which

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1 Counsel for the parties were timely notified of *amici*'s intent to file this brief under Rule 37.2(a) and have consented to the filing of this brief; their consents have been filed with the Clerk of this Court. No counsel for either party had any role in authoring this brief, and no person other than the named *amici* and their counsel has made any monetary contribution to the preparation and submission of this brief. *See* Rule 37.6.

started with its Internet search engine, now encompass tools for helping people use mobile devices and applications; find and publish online content; advertise their businesses; share, save, and access content of all types from documents to video; find where they are or where they want to be using maps and other geographic services; and connect with others all over the world. Google relies on a complex network of partners and suppliers to deliver its products to customers and make them as useful as possible. In providing these products and services, Google uses many patented technologies, some of which it owns and others of which it licenses.

Amicus Cisco Systems, Inc. is a leader in designing, manufacturing, and selling Internet Protocol based networking and other products related to the communications and IT sectors and provides services associated with their product.

Amicus Oracle is the world's largest provider of enterprise software and a leading provider of computer hardware products and services. Oracle's software, hardware systems, and services businesses develop, manufacture, market, host and support database and middleware software, applications software, and hardware systems, including engineered systems integrating hardware and software for optimized performance. Oracle offers products and services that are built upon industry standards, are engineered to work together or independently within existing customer information technology environments, and run securely on a wide range of customer IT environments, including cloud computing environments.

Amicus Red Hat, Inc. is the world's leading provider of open source software and related services to enterprise customers. Its supply chain involves hundreds of open source projects, which work independently of each other and collaborate over the Internet. Its software products are used by Wall Street investment firms, hundreds of Fortune 500 companies, and the United States government.

Amicus SAP America, Inc. is a leading technology company focused on developing innovative software and computer-based business solutions. It conducts significant research and development and invests heavily in commercializing innovative technologies.

Amicus Symantec Corporation is a global leader in security, backup and availability solutions. Symantec's innovative products and services protect people and information in any environment—from the smallest mobile device, to the enterprise data center, to cloud-based systems. Symantec's world-renowned expertise in protecting data, identities and interactions gives its customers confidence in a connected world.

Amicus Xilinx, Inc. is the world's leading provider of programmable platforms. Xilinx products are complex integrated circuits with sophisticated design software to support those circuits, that incorporate hundreds of patented technologies. Xilinx devices are highly flexible systems to be configured by its customers, enabling Xilinx to serve a wide range of end markets, including wired and wireless communications, aerospace and defense, automotive, and consumer products.

Amici believe that the Federal Circuit's ruling that, for a finding of induced infringement, it is not necessary to prove there was an act of direct infringement pursuant to § 271(a), will broaden the scope, burden and cost of patent litigation in ways that present a question of great importance to high technology industries.

SUMMARY OF ARGUMENT

The Federal Circuit's decision in *Akamai Technologies Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012) ("*Akamai*"), by eliminating the requirement that there be a direct infringer in order to find an entity liable for induced patent infringement, departs from the Patent Act's plain language and decades of this Court's precedent. This Court has long recognized that liability for indirect infringement must be based on at least one instance of direct infringement as defined by 35 U.S.C. § 271(a). The Federal Circuit's decision, in contrast, holds that there no longer is a requirement of a finding of § 271(a) infringement as a predicate to inducement liability.

Amici agree with Petitioners that the Federal Circuit's decision warrants this Court's review because it conflicts with statute and precedent, permitting inducement liability unmoored from the requirements of § 271(a) and inconsistent with the well-established rules of patent law that have informed and governed the marketplace for the last half century.

Amici respectfully submit that the decision further warrants this Court's review because it presents an issue of national importance to corporations and consumers. The Federal Circuit's elimination of the "all-elements" or "single-entity" rule[2] for induced in-

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[2] *Amici* note, as discussed further herein, that the "single-entity rule" may impose liability on one entity for the actions of another entity but only in circumstances where the actions of the second entity are legally attributable to the first entity, for example if the second entity is an agent of the first entity. As

fringement will exacerbate the growing problem of high-cost and abusive patent litigation. Whereas before, both direct and indirect infringement accusations could be assessed based on the uniform single-entity rule, the Federal Circuit's decision means that accusations of infringement now implicate consideration and investigation of every link along the supply, distribution, and use chains —even where patent defendants lack knowledge or control of the activities of their customers, end users, or suppliers.

The effects of the new rule will be especially deleterious for providers of complex goods and services, including manufacturers of software, hardware and network technologies. The new rule opens the door to unpredictable potential theories of divided infringement liability based on the actions of an unlimited number of participants in the complex networks that characterize current information technology markets. Moreover, any potential problems addressed by the new rule are overstated and can be better addressed by proper claim drafting.

Accordingly, *amici* respectfully urge the Court to grant the petition.

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used herein, "single-entity rule" includes these traditional control situations.

REASONS FOR GRANTING CERTIORARI

I. THE FEDERAL CIRCUIT'S DECISION CONFLICTS WITH THE PATENT STATUTE AND PRIOR DECISIONS OF THIS COURT

In the decision below, a divided Federal Circuit eliminated the longstanding rule that liability for induced patent infringement requires a predicate act of direct infringement as defined by 35 U.S.C. § 271(a). *See Akamai*, 692 F.3d at 1306, 1308. As one of the dissenting opinions correctly observes, this ruling ignores the limitations imposed by the definition of "infringement" in 35 U.S.C. § 271(a), as well as in this Court's precedents. *See* 692 F.3d at 1342-44 (Linn, J., dissenting).

A. The Decision Conflicts With The Patent Act

As both dissenting opinions below point out, the majority's determination improperly ascribes to the term "infringement" different meanings depending on its context. This not only conflicts with the plain language of § 271(a) giving a single definition to "infringement," but also violates basic canons of statutory construction requiring that like terms be interpreted alike. *See* 692 F.3d at 1337 (Linn, J., dissenting) ("[T]he majority effectively rewrites [the Act], telling us that the term 'infringement' was not as previously thought defined by Congress in Section 271(a), but instead can mean different things in different contexts."); *see also id.* at 1328 (Newman, J., dissenting) ("I need not belabor the quandary of how there can be direct infringement but no direct infringers.").

The decision also conflicts with 35 U.S.C. § 281, the provision of the Patent Act that provides that, when there is an "infringement," "a patentee *shall* have remedy by civil action." As one of the dissenting opinions notes, "[u]nder the majority's approach, if two or more parties independently practice the elements of a claim, an act of 'infringement' to support a charge of induced infringement under Section 271(b) has occurred" even though "there is no statutory basis for concluding that such independent acts constitute infringement and no basis for asserting a cause of action for infringement against any of those independent parties." 692 F.3d at 1341 (Linn, J., dissenting). Thus, under the Federal Circuit's interpretation of the statute, there will be cases of direct infringement without a direct infringer, thereby creating an inappropriate disjunction between the statute's treatment of liability and remedy.

The Federal Circuit's interpretation not only conflicts with the plain language of the statute, but also broadens inducement liability beyond the intent of Congress. Though *Akamai* acknowledges that § 271(b) was intended to codify common law applications of indirect liability for patent infringement, it ignores the canonical principle that indirect liability must be predicated on a legally cognizable underlying offense. *See, e.g.*, *Shuttlesworth v. City of Birmingham*, 373 U.S. 262, 265-66 (1963). In other words, "torts, quite simply, do not exist independent of a tortfeasor." B. Ferrall, et al., *The Complicated Relationship Between Multiple Party Patent Infringement Liability and Common Law Principles*, 13 Sedona Conf. J. 63, 73-74 (Fall 2012) (citing Restatement (Second) of Torts § 876 (1979)). The majority's ruling assumes that inducement liability under

§ 271(b) may encompass a broader swath of conduct than that captured by § 271(a), but "there is no known rule that says the elements of a tort are different when considered as a predicate" for indirect liability as compared to elements for proving direct liability. *Id.*

B. The Decision Conflicts With This Court's Precedents

In *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961) ("*Aro I*"), this Court articulated the requirement that indirect infringement liability be predicated on an act that violates 35 U.S.C. § 271(a) and thus constitutes direct infringement. *See id.* at 341 ("[M]anufacture and sale with that knowledge might well constitute contributory infringement under § 271(c) if, but only if, such a replacement by the purchaser himself would in itself constitute a direct infringement under § 271(a)."). Since then, this Court has repeated and applied this rule. *See, e.g.*, *Global-Tech Appliances Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 483 (1964) ("*Aro II*").

Moreover, this Court has held that the "special force" of *stare decisis* must apply to the rule articulated in *Aro I* in view of its half century of existence and acceptance as the defining case on indirect infringement. *Global-Tech*, 131 S. Ct. at 2068. As this Court recognized, the rule requiring that one actor be legally responsible for all steps of the patented process as a predicate to both direct and indirect liability has survived nearly 50 years unscathed by

judicial or legislative review, including by the America Invents Act, and has become a bedrock tenet of patent law upon which inventors and businesses alike rely. *See id.*; *see also Festo Corp v. Soketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 724 (2002). This Court has repeatedly cautioned against the Federal Circuit's adoption of "changes that disrupt the settled expectations of the inventing community." *Id.* at 724, 738-39 (citing *Warner-Jenkinson Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28 (1997)). Such "fundamental alteration" of well-settled principles of intellectual property law is the exclusive responsibility of Congress. *Id.* To find otherwise "risks destroying the legitimate expectations" of inventors and other participants in the technology market. *Id.* The Circuit's departure from precedent here thus warrants this Court's review.

II. THE PETITION RAISES AN ISSUE OF GREAT IMPORTANCE TO INFORMATION TECHNOLOGY MARKETS

By crafting a new rule that dramatically expands the scope of potential induced infringement liability, the Federal Circuit has imposed new costs and burdens on producers of complex products and services, especially in information technology markets. Under the previous rule, courts faced with divided infringement theories "generally refused to find liability where one party did not control or direct each step of the patented process." *BMC Resources Inc. v. Paymentech LP*, 498 F.3d 1373, 1380 (Fed. Cir. 2007). This was the rule regardless of whether indirect or direct infringement was asserted.

Under *Akamai*, however, inducement liability may be predicated on the acts of multiple parties,

each of whom performs one or more steps of the process. *Akamai*, 692 F.3d at 1308. Under this new rule, "the fact that no single entity performs all of the steps of a patented method does not resolve the issue of indirect infringement." *Voter Verified Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1384 (Fed. Cir. 2012). As a result, inducement liability is more likely to be found and the costs of litigating inducement liability will potentially skyrocket, as potential patent defendants now must take into account geographically and temporally disparate actors and actions.

These detrimental effects of the new rule will be especially great for participants in today's information technology environment. High technology companies like *amici* provide products and services that can be used in an almost infinite combination of ways by other companies and consumers. While the market's evolution toward specialized, complementary provision of components by numerous, separate suppliers has resulted in substantial gains for consumers (*e.g.*, smartphones that provide mobile telephony, Internet browsing, geographic services, and access to hundreds of thousands of applications at the tap of a finger), it makes technology companies particularly vulnerable to divided infringement claims. *See, e.g.*, eMarketer.com, *Number of Apps Used Daily* (Sept. 2012), *available at* www.emarketer.com (finding that more than half of smartphone users in the United States use three or more mobile applications on a daily basis). The impact of the new rule on such a significant portion of the U.S. economy underscores the importance of the question presented.

A. The *Akamai* Rule Invites Expansive Liability In Information Technology Markets

Today's information technology environment is densely populated by a diverse lattice of suppliers of complementary goods and services, ranging from hardware and software companies to mobile phone carriers and independent application developers. *Amici* build their products and services for maximum flexibility, to be compatible with many combinations of other products and services, which greatly enhances utility and facilitates a robust compatible goods market. Suppliers like *amici* thus might know of, and even cooperate with, other companies that supply products and services that are complementary to or interoperable with the supplier's products and services without being fully aware of, much less maintaining control over, all of the other companies' products and services.

Smartphones provide an illustrative example. E-commerce and delivery of content-on-demand to consumers' mobile phones—two types of transactions that have become a staple of the smartphone generation—by their nature require the technical collaboration of multiple supplier actors. The original equipment manufacturer ("OEM") provides the hardware (the mobile phone or tablet); the carrier provides the data connection; and multiple software companies provide the platform and the specific software applications enjoyed by the consumer. Each of the suppliers provides a piece of the process without controlling the whole. Yet, under the Federal Circuit's *Akamai* rule, any (or all) of the participants may be accused of and potentially held liable for in-

direct infringement based on their creation of a product or provision of a service that satisfies only a limited number of claim steps if they are also found to facilitate or enable the practice of other claim steps. The very large number of requisite participants in ecommerce and mobile applications increases the complexity of the patent scheme and exposure of business far beyond what was anticipated by the statute or precedent.

Given these features of today's information technology markets, the Federal Circuit's new rule allowing divided infringement claims will increase the cost and complexity of investigating allegations of patent infringement. The new rule forces companies like *amici* to consider numerous possible configurations and combinations of hardware and software to determine whether any permutation permitted or facilitated by their platforms could be interpreted to perform all the steps of any asserted claim—a costly, and often impossible, proposition.

For example, several *amici* who provide software for mobile applications have been accused under the *Akamai* rule of induced infringement of claims that contain elements that may be practiced by the hardware components, software, and end user (none of which are commonly controlled). *See, e.g.*, *CIVX-DDI LLC v. Hotels.com LP*, __ F. Supp. 2d __, 2012 WL 5383268 (N.D. Ill. Nov. 1, 2012) (finding that the claim steps may be done by Hotels.com (defendant) with one or more of third parties Expedia, DoubleClick, and/or iFrame).

Amici who provide hardware components that may be used in a network face a similar conundrum. The networks by their nature include multiple dis-

aggregated users and terminal devices. The users connect to and configure the network in a variety of ways, many of which are not known to *amici*. Cloud computing enhances this flexibility as well as the independence of the user. *Amici* build their hardware so that it can be used in a highly adaptable fashion and used in a large number of configurations. Under the *Akamai* rule, that very configurability which is beneficial to consumers, allowing them to use multiple types of devices and applications over the Internet and other networks, now subjects *amici* to unknowable and almost unlimited potential liability for these uses.

B. The *Akamai* Rule Exacerbates The Exorbitant Cost And Potential For Abuse In Patent Litigation

Patent infringement claims (whether ultimately litigated or not) force companies to divert valuable resources away from research and development towards investigating and defending infringement claims. The litigation newly encouraged by *Akamai* will exacerbate this problem. Every dollar spent defending against patent suits is a dollar that could be used to research new products, improve existing products, or simply bring products and services to customers more efficiently and at cheaper prices. *See, e.g.*, C. Dugg, *The Patent, Used as a Sword*, N.Y. Times (Oct. 7, 2012) (reporting that Apple and Google spent more "on patent lawsuits and unusually big-dollar patent purchases" than "research and development of new products").

The expansion of liability engendered by *Akamai* has led and will continue to lead to an escalation of such litigation costs, undermining the fairness and

efficacy of the patent system. In 2011, Chief Judge Randall Rader warned that increasing costs of patent litigation threatened to become "an unwieldy, unpredictable, and unaffordable burden on innovation." Randall R. Rader, U.S. Court of Appeals for the Federal Circuit, The State of Patent Litigation, E.D. Texas Judicial Conference at 20 (Sept. 27, 2011), *available at* www.patentlyo.com/files/raderstateofpatentlit.pdf. Judge Rader's remarks were based on statistics that show a steady and continuous increase in both volume and costs of patent litigation over the last decade. *See, e.g.*, PricewaterhouseCoopers LLP, *2012 Patent Litigation Study: Litigation continues to rise amid growing awareness of patent value* (2012) (reporting a record 22% increase in patent cases from 2010 to 2011). Today, it costs nearly the value of the case to litigate a patent claim worth $1 million. "The AIPLA Report of the Economic Survey 2011 reports that the total cost of patent litigation where the damages at risk are less than $1,000,000 average $916,000, where the damages at risk are between $1,000,000 and $25,000,000 average $2,769,000, and where the damages at risk exceed $25,000,000 average $6,018,000." USPTO, *Changes to Implement Inter Partes Review Proceedings*, Federal Register 7055 (Feb. 10, 2012)). This cost estimate does not take into account the substantial monetary burden shouldered by courts and taxpayers in complex, frequently lengthy patent cases.

It is widely understood that "the driving factor for that expense is discovery excesses," Rader, *supra*, at 8, a problem that will only intensify under the new rule, which puts the actions of potentially numerous third parties at issue. As Judge Rader noted, without tighter controls on the scope of patent litigation,

"[o]ur courts are in danger . . . of becoming an intolerably expensive way to protect innovation or provide freedom to operate. These vast expenses can force accused infringers to acquiesce to non-meritorious claims." *Id.* Far-reaching discovery into the geographically, temporally, and functionally disparate operations of unrelated suppliers of complementary goods and services will provoke settlements driven by cost rather than the merits of the parties' claims.

The manner in which *Akamai* expands liability also exacerbates the problem of abusive patent lawsuits. Armed with an expansive rule that can impose liability on a company for supplying otherwise non-infringing products and services, opportunistic plaintiffs are likely to pursue even more companies to seek extortionate settlements largely divorced from consideration of the merits of the claims. And companies that decline to settle meritless cases will be forced to invest even more money in investigating and litigating divided infringement claims before they can effectively evaluate the merits and settlement value.

The complexity of the new rule also injects additional uncertainty for both parties, impeding efficient settlement even of otherwise meritorious claims. *Compare* Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. Rev. 509, 511-14 (2003) (discussing the costs imposed on both parties by the complexity of the rules and procedures governing patent litigation); *see also* Mark Lemley, et. al., *Divided In-*

fringement Claims, 33 Am. I.P. Ass'n Q. J. 255, 280 (2005).[3]

The risk of litigation, particularly uncertain litigation, distorts business decisions and undermines market efficiency. Rader, *supra*, at 8 (characterizing abusive litigation as "as an unhealthy tax on innovation and open competition"). For smaller businesses, the risk of litigation may be a major consideration in deciding whether to engage in research and development or to deploy technological improvements that may make them the target of patent litigants. Meurer, *supra*, at 518. This risk is aggravated by the potential of being held liable for the unknown (and potentially unknowable) activities of others. Larger companies are affected as well. These companies may often seek and acquire patents they would not otherwise prosecute or purchase, merely to have defensive ammunition against opportunistic plaintiffs. The funds required to not only investigate and litigate patent lawsuits, but also to take preemptive measures of patent acquisition, divert funds away from more productive pursuits.

The consequences of litigation uncertainty, frivolous claims, and tactical abuse undermine the constitutional purpose of the patent system to "promote the Progress of Science and the Useful Arts." U.S. Const. Art. I, § 8, cl. 8. This Court has recognized as the ultimate goal of patent law to encourage innovation and bring new, useful technologies into public

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3 Such uncertainty has a detrimental effect on plaintiffs as well, as they cannot know until claim construction whether a court will agree that their claims may encompass the actions of multiple parties or instead find that the claims are unitary.

use. *See, e.g.*, *Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd.*, 545 U.S. 913, 919 (2005); *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 262 (1979). Permitting divided infringement theories to form the basis of indirect liability does not encourage or promote the balanced and sustainable patent system envisioned by the Constitution. Instead, it will tend to discourage legitimate commerce and productive enterprise, stifle innovation, and undermine cooperation among suppliers of technological components who will be leery of being held liable for the independent acts of others who provide complementary goods and services. *Grokster*, 545 U.S. at 919; *see also* Rader, *supra* at 20.

C. Limiting Divided Infringement Liability to Indirect Claims Does Not Resolve The Inefficiency And Unfairness of the *Akamai* Rule

The Federal Circuit, recognizing that eliminating the single-entity rule might dramatically increase inducement liability, suggested that defendants are protected from excessive liability based on the preservation of the single-entity rule for direct infringement and by the intent element of § 271(b). *See Akamai*, 692 F.3d at 1308-09. As a practical matter, however, preserving the single-entity rule for direct infringement does not ameliorate *Akamai*'s harmful impact. Instead, it merely invites inducement liability claims to be used instead of direct liability to reach those who practice some, but not all, of the steps of a patented method.

Nor does the *scienter* requirement for indirect infringement suffice to protect defendants. It requires

that the defendant have knowledge of the patent and knowledge that the induced acts constitute patent infringement, *Global-Tech*, 131 S. Ct. at 2070, but not that the defendant have specific knowledge regarding the acts constituting direct infringement, *In re Bill of Lading Transmission and Processing Sys. Patent Litig.*, 681 F.3d 1323, 1336 (Fed. Cir. 2012); *see also I4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010). Indeed, no particular direct infringer need be identified much less known to the defendant to impose inducement liability. *In re Bill of Lading*, 681 F.3d at 1336 ("[T]his court has upheld claims of indirect infringement premised on circumstantial evidence of direct infringement by unknown parties.") (quoting *Lucent Techs. Inc. v. Gateway Inc.*, 580 F.3d 1301, 1318 (Fed. Cir. 2009)).

The broad scope of potential inducement liability under the combined rulings in *Akamai* and *In re Bill of Lading* becomes particularly clear when one considers the extensive list of actions the Circuit identified as potentially "inducing" behavior, including "causing, urging, encouraging, and aiding others to engage in infringing conduct." 692 F.3d at 1307. Accused indirect infringers may be found in many scenarios to have constructive knowledge regarding potentially infringing configurations or uses for their technology, without exercising any control or having any actual knowledge regarding whether (or how) other companies configure their system or perform the claimed steps. Inducement liability may be predicated on nearly infinite permutations of potential configurations by a wide variety of actors, substantially mitigating the effectiveness of inducement liability's intent requirement.

D. The *Akamai* Rule Is Unnecessary Because Proper Claim Drafting Can Prevent Any Abusive Infringement Involving Multiple Actors

In *Akamai*, the majority expressed concern about leaving inventors without recourse for infringement of their patents simply because certain steps of the claimed process are outsourced to different parties. But the Federal Circuit's rule is a solution in search of a problem. *First*, there is no evidence that high-technology companies alter their practices so that different entities practice different steps of a patent claim in order to avoid infringement liability. *Second*, were such intentional evasion to occur, the traditional "vicarious liability test also reaches joint enterprises acting together to infringe a patent." *Akamai*, 692 F.3d at 1349 (Linn, J., dissenting).

Assertion of a divided infringement theory is most likely to occur in instances where the plaintiff seeks to expand the scope of its claims beyond the original intent of the drafter. Since patentees have long been on notice of the need to draft claims to cover the activities of a single entity, the likelihood of unintentional, but nonetheless legitimate, divided claims is relatively small. Rather, it is likely that the patentee intended that each step be performed by a single entity—and did not intend a construction whereby the steps are performed disparately, by multiple actors. There is thus no support for the Court's attempts to stretch claims to cover conduct that was neither described nor contemplated at the time of claim drafting.

Moreover, any such problems are more appropriately remedied by proper claim drafting. The

Akamai case itself is instructive. In the district court, Akamai asserted three patents, which shared the same specification, all directed at a "system for allowing a content provider to outsource the storage and delivery of discrete portions of its website content." 692 F.3d at 1315. "All three patents include method claims directed to a content delivery service that delivers the base document of a website from a content provider's computer while individual embedded objects of the website are stored on an object-by-object basis on a Content Delivery Network ("CDN")." *Id.*[4] Though all of the patents cover various aspects of the same process, only the '703 patent, which is at issue in this appeal, implicates the joint infringement issue. *Id.* at 1322 (citing Oral Arg. 10:35-11:10) (further noting that Akamai stipulated to a finding of noninfringement of the other two patents that included only unitary claims). In other words, by Akamai's own admission, it was able to effectively capture its invention in unitary claims, which not only proves that resolution of the perceived problem by proper claim drafting is possible, but also that the interpretation of the '703 patent as encompassing distributed claims likely diverges from the original intent of the patentee.

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[4] To allow users accessing a content provider's web page to receive embedded objects from the CDN, the URL of the embedded object must be modified to point to the CDN hosting the object rather than the content provider' domain. *Id.* The patented process is described in the specification, and no indication is given that the inventors contemplated a process in which a content provider would have the option of choosing the embedded objects and then independently modifying the corresponding URLs to direct traffic to objects stored on the CDN .

Since the limitations on joint infringement have been well-established for at least half a century, patent prosecutors are well aware of the necessity of drafting appropriate claims. *See, e.g., See* Larry S. Nixon, *Preparing and Prosecuting a Patent to Win in Litigation*, 423 PLI/Pat 39, 53-54 (1995). For example, "[m]ost inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity and whether it supplies or receives any given element." Lemley, *supra*, at 272. If the actions of multiple entities are intended to be covered, separate claims can be drafted to cover each. *Id.* Such drafting avoids the necessity of relying on divided infringement to establish liability and has the additional benefit of identifying the intended invention in a manner that most clearly puts potential infringers on notice of the activities that constitute infringement. *Id.*

By comparison, the new rule leads to *post hoc* speculation by courts and patent owners (many of whom are not the original inventors) regarding whether the claim is properly construed to encompass the acts of multiple actors or conversely was always intended to be done by one actor. Lemley, *supra* at 280; *see also Faroudja Labs v. Dwin Elecs. Inc.*, No. 97-20010 SW, 1999 WL 111788 (N.D. Cal. Feb. 24, 1999) (declining to impose liability based on plaintiff's divided infringement theory because the plaintiff, as the drafter of the claims, could have included only those steps performed by the defendant). This is a particularly perverse result considering that the majority of the claims to be construed in the near future are likely to have been drafted under the old regime, where divided infringement claims were prohibited. Thus, for a Court to conclude that a

claim drafted before *Akamai* implicates the activities of multiple actors, it either has to find that the patentee intentionally drafted a claim that was then-unenforceable or find that the construction supports divided infringement despite the contrary intent of the drafter.

Divided infringement issues can be avoided not only by drafting unitary process claims but also by drafting apparatus claims (since all elements by their nature are generally included in a single product). "Physical objects typically accumulate the contributions of multiple actors, so in many situations, some act of making, using, selling or importing will eventually correspond to the claimed apparatus, even if based originally on contributions from multiple parties. Direct and/or indirect infringement remedies may therefore be more readily available." Lemley, *supra*, at 275. "[I]t is much harder (though not impossible) to *accidentally* draft distributed patent claims to systems, and virtually impossible to draft distributed patent claims to articles of manufacture." *Id.* Similarly, by their nature, apparatus claims more clearly put infringers on notice of potential infringement since all of the elements must be reflected in the accused device.

Ultimately, the cost of poorly drawn claims is best borne by patent drafters rather than by future litigants and the courts who have to grapple with the claim construction issues and ambiguity inherent in such claims. *See Sage Prods Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) ("Given a choice of imposing the higher costs of careful prosecution on patentees, or imposing the costs of foreclosed business activity on the public at large, this

court believes the costs are properly imposed on . . . the patentees."). It has long been recognized that litigation is an inappropriate forum for the redrafting of claims, "whether to make them operable or to sustain their validity." *See, e.g., Chef-Am. Inc. v. Lamb-Weston Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004) (collecting cases). Permitting the *Akamai* rule to stand undermines the public notice function of patents and the longstanding policy against relying on judicial intervention to resurrect improperly-drafted claims. *Id.*; *see also Sontag Chain Stores Co. v. Nat'l Nut Co.*, 310 U.S. 281, 293 (1940) ("[T]he patentee might have included in the application for the original patent, claims broad enough to embrace petitioner's accused machine, but did not. This 'gave the public to understand' that whatever was not claimed did not come within his patent and might rightfully be made by anyone.").

E. The *Akamai* Rule Invites Improper Liability for Practicing The Prior Art.

Finally, *Akamai*, by permitting divided infringement claims, provides patentees with new opportunities to add steps, including known prior art steps, in order to avoid validity challenges and artificially expand the scope of their claims beyond the inventive elements.

For example, a software claim may apply known data processing steps to a particular hardware configuration. The software company, whose software process is not infringing, may nonetheless be liable for induced infringement merely because it makes its software compatible with a particular hardware configuration that is adopted by a user—even though

the same software company could not be held liable for direct infringement because all the steps it performs are within the prior art.

The absence of any temporal limitation on the *Akamai* rule makes the inequity of the rule particularly stark. For example, assume Company A has been making and selling a router for twenty years, well before the patentee even existed. However, after the patentee received its patent, which includes divided claims, a new company, Company B, introduces a new wireless device. Company A provides support to its customers who purchased the router years ago, but now want to use it with Company B's wireless device. Company A may even provide instructions for how to set up its router to be used with the wireless device. Even though it is undisputed that neither the wireless device nor the router infringes the patent and that the patentee's invention long post-dates Company A's introduction of its router, Company A can be accused and potentially held liable under the *Akamai* rule for selling its prior art router merely because the patent includes multi-actor claims that cover the combination of Company A's router and a device sold by an entirely unrelated entity. Such results are antithetical to patent law's purpose of protecting only novel, useful inventions.

For all these reasons, the decision below raises issues of great importance to information technology markets and warrants this Court's review.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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AMICUS CURIAE BRIEF

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BRIEFS

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Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

—v.—

AKAMAI TECHNOLOGIES, INC. ET AL.,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF PATENT AND INTELLECTUAL PROPERTY LAW SCHOLARS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS ON THE ISSUE OF JOINT INFRINGEMENT

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INTEREST OF *AMICI CURIAE*[1]

Amici are law scholars who specialize and practice in intellectual property law, including one who has previously published on the issue of joint infringement and active inducement. Amici have no personal stake in the outcome of this case, but have an interest in seeing that the patent laws develop in a way that promotes rather than impedes innovation.

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1 No counsel of a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief and no person other than amici curiae, its members, or its counsel made a monetary contribution to its preparation or submission.

Petitioners have provided written consent, on file with the clerk, to the filing of briefs in support of either, or neither, party. Respondent has provided written consent for the filing of this brief, which is being submitted herewith.

SUMMARY OF ARGUMENT

The Federal Circuit's interpretation of 35 U.S.C. § 271 abrogates the single entity rule from induced infringement of method claims under § 271(b). Such an interpretation is inconsistent with the statutory scheme and is unnecessary to provide adequate protection for patent holders. Principles of vicarious liability allow infringement to be found when the actions of multiple parties, together, satisfy all elements of a claimed invention, so long as one party is directing the others.

The Federal Circuit's new rule broadens the scope of patents to include subject matter not invented by the inventor. It is the inventor's duty to identify the invention that is covered by the patent. Accordingly, the inventor should identify which entities perform which elements of his or her invention. If no single entity performs each element of a claim, no entity has performed the invention as conceived of by the inventor. Rather, the putative infringers have performed methods different from the invention. Accordingly, *Amici* respectfully request this Court to overturn the Federal Circuit's decision and reinstate the single entity rule set forth in *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007).

ARGUMENT

The Federal Circuit removed the single entity rule as applied to indirect infringement when it adopted a new rule allowing a patent holder to aggregate the actions of multiple parties to allege that there has been active inducement of patent infringement. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1306 (Fed. Cir. 2012) (en banc). This view of active inducement is contrary to the plain language of the statute. Further, this view represents poor policy because it provides patent protection for methods not invented by the inventor.[2]

Determining infringement of an apparatus claim is relatively straightforward. If the alleged infringing device contains all elements of the claimed invention, the device infringes the patent. *See Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 528 (1972).[3] The person liable for direct infringement of a patent is the person who adds the final piece to a patented device, thereby creating a

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2 *See* Brendyn M. Reinecke, Akamai: *Patent Claims Are Now Broader than the Invention*, 2013 WIS. L. REV. 1231, *available at* http://wisconsinlawreview.org/wp-content/files/3-Reinecke-Final-2.pdf; Shubha Ghosh, *Managing the Intellectual Property Sprawl*, 49 SAN DIEGO L. REV. 979 (2012); Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor after* Eldred, 19 BERKELEY TECH. L.J. 1315 (2004).

3. The "all elements rule" has been traced back to at least *Barrett v. Hall*, 2 F. Cas. 914 (D. Mass. 1818) (No. 1047) (Story, J.); see also, *Evans v. Eaton*, 8 F. Cas. 846, 855 (D. Pa. 1816) (No. 4559) (Washington, J.), rev'd, 3 U.S. (16 Wheat.) 454 (1818).

device that includes all elements of the claim. *Id.* Thus, if a patented machine includes five elements and a person produces a machine with only four of those elements, no matter how trivial the fifth element is, whoever adds that fifth element is liable for direct infringement of the patent. The logic is also straightforward: the machine with only four elements does not infringe because it does not contain all of the claimed elements. Only with the addition of the fifth element does the machine have all claimed elements, thereby infringing the patent.

But that logic does not follow when applied to method claims. If a patented method contains five steps, and a person performs steps one through four, and another person does step five, then no person has performed the method described in the patent. Therefore, no person should be liable for infringement of the patent. Unlike adding the final part to a device that ends up containing all elements of a patented device, a person committing only the final act of a method does not end up committing all elements of the claimed method.

However, the Federal Circuit held that a person performing the first four steps of a claimed invention is liable as an infringer if that person also actively induced another to commit the final step, but where no single party performs all claimed steps. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1306 (Fed. Cir. 2012) (en banc). In the previous example, the machine with four of the five claimed elements does not infringe the apparatus claim because the machine with only four elements is not the inventor's patented invention. Rather, the inventor patented the machine with all five

elements. Similarly, a person performing only four of five steps does not infringe the method claim because the first four steps are not what the inventor invented and patented. Accordingly, *Amici* respectfully request this Court to overturn the Federal Circuit's decision and reinstate the single entity rule for the entirety of § 271.

I. THE TERM "INFRINGEMENT" CAN HAVE ONLY ONE MEANING WITHIN THE STATUTE

Basic statutory construction dictates that statutes be read as a whole and in context. *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997). Section 271(a) defines how one "infringes a patent." 35 U.S.C. § 271(a) (2012).[4] Section 271(b) holds liable one who "actively induces infringement" of the patent. *Id.* § 271(b). Accordingly, the term "infringement" used in § 271(b) depends on another "infring[ing] the patent" as defined in § 271(a). Thus, because § 271(a) requires a single entity to perform all elements of the claimed invention, § 271(b) must also require the single entity rule as it depends on § 271(a). *See Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005).

Removing the single entity rule provides patent protection for methods not invented by the inventor. Because the inventor must distinctly claim his or her invention, it is up to the inventor to detail which

4 Unless noted otherwise, all references to the United States Code are to the 2012 version.

parties perform which elements according to the invention. *See* 35 U.S.C. § 112(b).

Moreover, eliminating the single entity rule from § 271(b) encourages a patent applicant to ambiguously claim his or her invention. If there is no single entity rule, then, strategically, the applicant would be encouraged to put all elements of the invention into a single claim regardless of which party performs which elements according to the invention. Such a strategy allows the inventor to assign elements to various parties *post hoc*.

A. There Is No Legal Distinction Between "Infringement" and "Infringes the Patent"

When interpreting a statute, this Court first examines the text of the statute to determine whether there is any ambiguity. *Barnhart v. Sigmon Coal Co.*, 534 U.S. 438, 450 (2002). When determining ambiguity, this Court looks "to the language itself, the specific context in which that language is used, and the broader context of the statute as a whole." *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997). Thus, when interpreting a statute, the text is paramount.

The Federal Circuit noted that § 271(a) details how one infringes a patent, but that "[n]othing in the text indicates that the term 'infringement' in [S]ection 271(b) is limited to 'infringement' by a single entity [as in Section 271(a)]." *Akamai*, 692 F.3d at 1309 (internal citations omitted). Rather, with respect to § 271(b), the Federal Circuit held that "infringement" refers "most naturally to the acts necessary to infringe a patent, not to whether

those acts are performed by one entity or several." *Id.*

Such an interpretation, however, fails to consider the relation of the words interpreted. It is plausible to read "whoever 'actively induces infringement,'" as recited in § 271(b), as "whoever 'actively induces one to infringe a patent.'" If the two statements are equivalent, as *Amici* believe they are, then § 271(b) must rely upon § 271(a). If § 271(a) defines how one directly "infringes a patent," then it is unnecessary to develop an additional definition of "infring[ing] a patent" with respect to how one "actively induces one to infringe a patent." Accordingly, if § 271(a) includes the single entity rule, then so must § 271(b).

There is no linguistic distinction to be drawn between a definition of "infringement" as "acts necessary to infringe a patent" and "infring[ing] the patent," as recited in § 271(a). Neither direct infringement under § 271(a) nor indirect infringement under § 271(b) refers to the single entity rule. Thus, if the single entity rule is to be applied to § 271(a) but not to § 271(b), there should be some textual support for the inconsistency. *Amici* submit that there is no such support.

The Federal Circuit redefined "infringement" for purposes of § 271(b) because "[n]othing in the text indicates that the term 'infringement' in [S]ection 271(b) is limited to 'infringement' by a single entity." *Akamai*, 692 F.3d at 1309. However, the same can be said of § 271(a), yet the Federal Circuit did not suggest, nor do *Amici* support the notion, that the single entity rule does not apply to direct infringement. *See id.* at 1307. Defining a term

differently for different subsections is inconsistent with Congress's statutory scheme and fails to consider § 271(b) in light of the entire statute. *See United States v. Boisdore's Heirs*, 49 U.S. 113, 122 (1850) ("In expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.").

B. It Is the Duty of the Inventor to Identify Which Entities Perform the Claimed Elements According to the Invention

During prosecution of a patent in the Patent and Trademark Office, the inventor has the opportunity and the duty to "particularly [point] out and distinctly [claim] the subject matter which the inventor . . . regards as the invention." 35 U.S.C. § 112(b). Assuming that the inventor drafted the claims with the single entity rule in mind, any scenario where there is no direct infringement under § 271(a) is not a scenario the inventor contemplated or invented. Accordingly, any scenario where there is no "infringement" as in § 271(a) does not deserve protection. Furthermore, patent law allows and even promotes others to find non-infringing design-arounds of patented inventions.

The Federal Circuit reasoned that there is no sound policy for holding a party liable for inducing one entity to perform all elements of a claim, but not for holding a similar party liable for inducing two or more entities to perform the elements of the claim. *Akamai*, 692 F.3d at 1309. The court reasoned that both inducers have the same effect on the patent

and, therefore, should be held equally liable for infringement. *Id.* The same argument could also be applied to direct infringement under § 271(a), yet the Federal Circuit does not suggest that the single entity rule should be eliminated for direct infringement.

For example, one who builds a machine patented by another, except for some trivial element in the claim that is non-limiting in any practical way, is not literally liable under § 271(a). This is true even though the patentee is impacted in the same way. Having the same effect on a patentee is not enough of a reason to expand liability of a *statute* that has already been interpreted by courts as requiring the single entity rule. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379 (Fed. Cir. 2007).

C. Eliminating the Single Entity Rule Over-Broadens the Scope of Patents to Include Inventions Not Invented by the Inventor

Modifying a requirement for who infringes a patent necessarily modifies the scope of patents. If the single entity rule is in effect, a patent owner can assert his or her right to exclude others from practicing a patented claim only in the scenario where one entity satisfies all elements of the patented claim. If the single entity rule is not in effect, the scope of the patented claim expands to include scenarios where multiple parties collectively satisfy all elements of the patented claim. Thus, modifying the legal definition of "infringement"

modifies the scope of patent claims without modifying the language of the claim itself.

Eliminating the single entity rule with respect to induced infringement under § 271(b)—but not with respect to direct infringement under § 271(a)—provides patent claims with a dual scope that depends on the legal theory of infringement liability. Such a dual scope adds uncertainty and indefiniteness to the patent system. That is, a claimed invention has one scope limited to scenarios where one entity satisfies all elements of a patented claim *for direct infringement under § 271(a)*. But the same claim has another scope that is broadened to include scenarios where multiple entities aggregate their actions to satisfy all elements of the patented claim *for induced infringement under § 271(b)*. Under the Federal Circuit's holding, the legal rules for how the claimed subject matter applies to a particular scenario changes depending upon the legal theory of liability.

If method claims are properly drafted to be infringed by a single actor, then eliminating the single entity rule provides protection to a method not invented by the inventor. Specifically, the new rule provides protection for that same method, but performed by multiple actors, not a single actor. That is not what the inventor invented, and it does not deserve protection. *See* 35 U.S.C. § 112(b) ("The specification shall conclude with one or more claims *particularly pointing out and distinctly claiming* the subject matter which the inventor . . . regards as the invention.") (emphasis added). To "particularly point out and distinctly claim" what the inventor asserts is his or her intellectual property, the inventor must

identify the requirements for each actor in the invented system. Under this type of patent system, if multiple actors' actions collectively perform all elements of a claim, that is not an infringement of the invention because the inventor's invention requires *a single* party to perform such elements.

Furthermore, removing the single entity rule can provide patent protection for an idea that is unpatentable. To be patentable, a method must be novel and nonobvious. 35 U.S.C. §§ 102-3. In some instances, a method is disclosed in the prior art if it is performed by multiple actors, but novel and nonobvious if performed by a single entity. In such a situation, the method can be patented over the prior art by including all steps of the method into a single claim. If the patentee can then assert the method claim against multiple actors under the Federal Circuit's interpretation of § 271(b), then the patentee is gaining patent protection for a method that is unpatentable because it is disclosed in the prior art.

Removing the single entity rule for part of the statute adds unnecessary uncertainty and complexity. A question that remains unanswered is what effect removing the single entity rule should have on the Patent Office during patent prosecution. If the single entity rule does not apply to § 271(b), the patent examiner may be able to assume, for purposes of novelty and nonobviousness, that multiple entities can perform the method claim being examined. If the examiner can assume such, then an inventor with a patentable claim under the rules of § 271(a) cannot obtain a patent. If the examiner cannot, then the Patent Office may be able

to issue patents to be asserted against others under § 271(a) but not § 271(b).

Finally, eliminating the single entity rule incentivizes patentees to be ambiguous with their claim language. If the law allows a patent owner to aggregate actions of multiple parties to collectively infringe a patent, the inventor is incentivized to place all elements for all actors into a single, super claim because the claim elements can be divvied up by the patent owner after the patent is granted and he or she finds a scenario to sue for patent infringement. Such a patent creates ambiguities as to what exactly the inventor claims to be the invention and, therefore, is contrary to a purpose of the patent system. *See* 35 U.S.C. § 112(b).

II. PROPERLY INTERPRETING INDIRECT INFRINGEMENT IN § 271(B) REQUIRES DIRECT INFRINGEMENT AS DEFINED IN § 271(A)

The single entity rule set forth in *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007) should apply to § 271(b) in the same manner as the rule applies to § 271(a). Further, § 271(a) should provide the definition of "infringement" for *all* subsections of § 271. Even if *BMC* should have been decided in favor of the position taken by the Federal Circuit in the present case, there is not enough support for this Court to uphold the Federal Circuit's overturning of *BMC*. Rather, if the decision was not what Congress intended, it should be left to Congress to fix, as it did in a similar situation after this Court's decision in

Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972).

A. Section 271(a) Defines "Infringement"

The statutory scheme of § 271 indicates that Subsection (a) defines what "infringement" is. Subsections (b) and (c) were initially drafted by Congress as the only other ways that one can be liable for infringement without violating Subsection (a).[5] Accordingly, one who does not perform each element of a claim is not liable under Subsection (a), and one who induces another to perform only a portion of the elements should not be liable under Subsection (b).

The meanings of terms in a statute are derived from context, including the definitions of related terms. *Federal Commc'ns Comm'n v. AT&T, Inc.*, 131 S. Ct. 1177, 1182-83 (2011). Section 271(a) defines who "infringes the patent." Accordingly, § 271(a) defines the term "infringe" as used in § 271(b). The terms "infringes the patent" and "infringement" are more than related: they stem from the same root word, already defined in § 271(a). Thus, the meaning of the two terms must be closely related in a legal sense. *See id.*

Within the statutory framework of § 271, Congress was very careful in defining what constitutes "infringement." Only two subsections define actions that constitute "infringement." Section 271(a) states that whoever "makes, uses,

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5. Subsections (e) through (g) were added after the Patent Act of 1952. *See Akamai*, 692 F.3d at 1342–43 (Linn, J., dissenting).

offers to sell, or sells any patented invention . . . infringes the patent." Section 271(e)(2) begins by reciting that "[i]t shall be an act of infringement to . . ." and goes on to describe scenarios concerning applications to the Food and Drug Administration regarding patented inventions.

Any definition of "infringement" other than the definition in §§ 271(a) and (e)(2) is superfluous. Other subsections of § 271, including § 271(b), do not describe acts that constitute infringement, but rather describe scenarios where one can be liable "as an infringer" for another's infringement.[6] Thus, when Congress drafted § 271(b) requiring another to infringe a patent for one to be "liable as an infringer," it was not an attempt by Congress to define *an additional* way to infringe a patent. Rather, § 271(b) necessarily relies on other portions of the statute to define what acts constitute

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6. *Id.* § 271(b) ("Whoever actively induces infringement of a patent shall be liable *as an infringer*.") (emphasis added); *id.* § 271(f)(1) ("Whoever without authority supplies [a substantial portion of the patented invention] shall be liable *as an infringer*.") (emphasis added); *id.* § 271(f)(2) ("Whoever without authority supplies [any component especially adapted to infringe a patent] shall be liable *as an infringer*.") (emphasis added); *id.* § 271(g) ("Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable *as an infringer* . . . .") (emphasis added). Section 271(c) sets forth requirements for one to "be liable *as a contributory infringer*." *Id.* § 271(c) (emphasis added). While some of the subsections cited in this footnote do not require a showing of another's infringement for the statute to be satisfied, the underlying idea is that one is "liable as an infringer" for making it easy for others to infringe. *See id.* §§ 271(b), (c), (f), and (g).

"infringement." Any additional definition of "infringement" is extraneous to the statute and should be discarded.

B. Because the Single Entity Rule has Already Been Established, This Court Should Leave It to Congress to Abrogate

In *Deepsouth*, this Court interpreted § 271 to not hold liable a party that supplied the materials necessary to infringe a patent where the assembly of the materials occurred outside of the United States. *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). In response to that decision, Congress enacted § 271(f) that holds such a supplier liable "as an infringer." Thus, Congress has shown not only the ability to overturn a patent law ruling it finds improper, but also the capacity and willingness to do so.

At least because the single entity rule has already been established for active inducement of infringement under § 271(b) in *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007), it should be left to Congress to change the interpretation. Indeed, this Court has already noted that

> *we should not expand patent rights by overruling or modifying our prior cases* construing the patent statutes, unless the argument for expansion of privilege is based on *more than mere inference from ambiguous statutory language*. We would

> require a clear and certain signal from Congress before approving the position of a litigant who, as respondent here, argues that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought.

Deepsouth, 460 U.S. at 531 (emphasis added). Congress recently had the opportunity to overturn *BMC* in the Leahy-Smith America Invents Act, but did not do so. *See* Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011). Maintaining *BMC* and the single entity rule in what is otherwise a patent system overhaul indicates that Congress agreed with *BMC*.

C. Proper Claim Drafting and Principles of Vicarious Liability Provide Sufficient Patent Protection to the Patentee

The single entity rule and the holding of *BMC* sufficiently protect against entities that attempt to evade liability by directing another to perform only some elements of a claimed invention. If one party "control[s] or direct[s] each step of the patented process," that party is liable for direct infringement under § 271(a). *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007). This is a basic notion of vicarious liability. Additionally, each entity in such an enterprise is liable for patent infringement, not just the director. If two parties work together to split up the elements of a claim such that no one entity satisfies every element, yet

their collaboration does not rise to the level of holding one or both liable through the legal principles of vicarious liability, then neither *should* be liable for infringement because there has been no cognizable harm.[7]

Patent law is unique from other areas of law in that it allows an individual to prevent others from doing something that would otherwise be legal, as defined by a patent's claims. Further, the patentee has control over what activities are covered by the patent by properly drafting claims. Accordingly, "[t]he concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party." *BMC*, 498 F.3d at 1381.

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7 *See* Mark A. Lemley, et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255 (2005).

CONCLUSION

For the foregoing reasons, and those set forth in the Petitioner's brief, the judgment of the court of appeals should be reversed.

Respectfully submitted,

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AMICUS CURIAE BRIEF

RECORD
AND
BRIEFS

Supreme Court, U.S.
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No. 12-786

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

—v.—

AKAMAI TECHNOLOGIES, INC., ET AL.,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF *AMICI CURIAE* OF TEN INTELLECTUAL PROPERTY LAW PROFESSORS IN SUPPORT OF PETITIONER ON THE ISSUE OF EXTRATERRITORIALITY

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INTEREST OF THE *AMICI CURIAE*[1]

Amici are law professors who specialize in intellectual property law, including one who has previously published on the issue of active inducement. Amici have no personal stake in the outcome of this case,[1] but have an interest in seeing that the patent laws develop in a way that promotes rather than impedes innovation.

SUMMARY OF THE ARGUMENT

A fractured *en banc* U.S. Court of Appeals for the Federal Circuit altered the nature of active inducement of patent infringement in this case and the related appeal, *Limelight Networks, Inc. v. Akamai Technologies, Inc.*, No. 12-786. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1306 (Fed. Cir. 2012) (en banc). The court held that there could be active inducement of infringement of a patented method even in circumstances where there would be no direct infringer under 35 U.S.C. § 271(a). The court therefore defined 35 U.S.C. § 271(b) to a free-standing form of infringement that does not require

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[1] No counsel of a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief and no person other than amici curiae, its members, or its counsel made a monetary contribution to its preparation or submission.

Petitioners have provided written consent, on file with the clerk, to the filing of briefs in support of either, or neither, party. Respondents have provided written consent for the filing of this brief, which is being submitted herewith.

a predicate act of direct infringement for there to be liability.

The Federal Circuit's alteration of the standard for active inducement is an incorrect interpretation of § 271(b), and the Court should restore the law of active inducement to require an antecedent act of direct infringement. While the petitioners have demonstrated that the Federal Circuit's rule is unsupported by the statute and by Supreme Court precedent, this brief will demonstrate a concern overlooked by both the Federal Circuit and petitioners: the elimination of any territorial limits to active inducement of infringement. Such an interpretation of active inducement under § 271(b) runs afoul of the presumption against extraterritoriality and, as a result, cannot be correct.

ARGUMENT

I. REQIURING AN ACT OF DIRECT INFRINGEMENT UNDER 35 U.S.C. § 271(A) AVOIDS AN INAPPROPRIATE EXTRA-TERRITORIAL EXPANSION OF PATENT LAW

An infringing use of a patented method requires that each and every step of the claimed method be performed. With many innovations being implemented on networks or, as in this case, over the Internet, the issue of "divided infringement" has arisen and confounded the courts. *See generally*

Mark A. Lemley, et al, *Divided Infringement Claims*, 33 AIPLA Q.J. 255 (2005). In particular, the steps of a patented method may be performed by multiple parties, making the determination of *who*, if anyone, is the infringer difficult. Courts have struggled to find liable the masterminds who control or direct the use of the patented method by multiple parties while at the same time avoiding the unreasonable liability that would result from holding someone liable simply for performing an act that is merely one step in a patented process. *See, e.g., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328-29 (Fed. Cir. 2008); *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378-79 (Fed. Cir. 2007), *overruled on other grounds*, *Akamai*, 692 F.3d at 1306.

Compounding this issue is that some of the steps of a patented method may be performed outside of the United States, making determination of the locus of infringement challenging and risking the extraterritorial extension of a patent. *See generally* Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV. 2119, 2158-59 (2008); Lemley, et. al., *supra* at 263-65.

In this case, the Federal Circuit attempted to address in part the former aspect of divided infringement but ignored, and indeed, may have exacerbated, the latter concern. The direct infringement provision of the Patent Act requires acts of infringement to take place "within the United States." 35 U.S.C. § 271(a). In contrast, active inducement of infringement under 35 U.S.C. § 271(b) contains no express territorial limit; it merely states that "[w]hoever actively induces infringement of a

patent shall be liable as an infringer." 35 U.S.C. § 271(b).

The Federal Circuit's interpretation of § 271(b) in this case risks greatly expanding the extraterritorial reach of active inducement of patent infringement because that provision lacks an express territorial limitation. Prior to the Federal Circuit's decision in this case, the absence of a territorial limit in § 271(b) was of no moment because an act of direct infringement under § 271(a) was a necessary prerequisite for actively inducing infringement. The territorial limit of § 271(a), therefore, also constrained the scope of § 271(b). *See, e.g., NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005).

In this case, however, the Federal Circuit severed the link between these two provisions. Under *Akamai*, § 271(b) is now an independent infringement provision; it is possible for there to be an active inducer of infringement without a predicate act of direct infringement under § 271(a).

This severance of the provisions, however, means that the Federal Circuit has also eliminated any territorial limit on § 271(b). As we explain below, the lack of a territorial constraint on § 271(b) suggests strongly that the Federal Circuit erred in its statutory construction of that provision. *See generally* Timothy R. Holbrook, *The Potential Extraterritorial Consequences of* Akamai, 26 EMORY INT'L L. REV. 499, 501-02 (2012).

The Court should return active inducement to its proper place: a form of liability available only when there is an actual direct infringer under

§ 271(a). The presumption against extra-territoriality strongly suggests that the Federal Circuit's interpretation of the Patent Act in this case is incorrect.

A. The Federal Circuit's Decoupling of Direct Infringement from Induced Infringement Removes the Territorial Limits on Active Inducement of Infringement

1. Before *Akamai*, the Federal Circuit Used the Territorial Limits in § 271(a) to Limit Active Inducement Under § 271(b)

The Supreme Court has established a strong presumption against the extraterritorial application of U.S. law. *See, e.g., Kiobel v. Royal Dutch Petroleum Co.*, 133 S. Ct. 1659 (2013) (relying on presumption to decline to extend reach of Alien Tort Statute); *Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247 (2010) (relying on presumption to decline application of United States securities law to foreign conduct); *E.E.O.C. v. Arabian Am. Oil Co.*, 499 U.S. 244 (1991) (using presumption to decline application of Title VII to employment practices of US employers employing US citizens abroad). Although Congress undisputedly has the authority to regulate acts outside of the territorial boundary of the U.S., the Court has recognized that "legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United

States." *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949).

The concern with extraterritoriality has been of particular importance in patent law. *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 427, 454-55 (2007) ("The presumption that United States law governs domestically but does not rule the world applies with particular force in patent law."). This is because the patent law, which varies in each individual country, "may embody different policy judgments about the relative rights of inventors, competitors, and the public in patented inventions." *Id.* at 455 (citation and quotation omitted). As this Court has explained, judicial construction of the Patent Act presumes that legislators respect the sovereignty expressed in the patent laws of other nations. *Id.*

Congress for the most part has expressly limited the exclusive rights of patents in the Patent Act itself. Specifically, § 271(a) explicitly limits direct infringement to sales, offers to sell, uses, and making of the invention "within the United States" and importations of the invention "into the United States." 35 U.S.C. § 271(a). When Congress has departed from the general presumption that patent law is territorial, it has done so explicitly, passing particular statutes that expand liability for overseas acts in carefully limited ways. *See* 35 U.S.C. § 271(f), (g) (defining patent infringement for exports and imports, respectively, under limited circumstances).

In contrast to the express limits in § 271(a), the statutory provision governing active inducement

of patent infringement, § 271(b), contains no territorial limitation whatsoever. It merely states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b). Thus, on its face, § 271(b) is not limited to acts within the United States.

The absence of a territorial limit is particularly conspicuous given that § 271(b)'s sister provision, contributory infringement under § 271(c), is expressly limited to acts within the United States. 35 U.S.C. § 271(c); *see also Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011) (recognizing the common origin and relationship between §§ 271(b) and (c)). Consequently, as a textual matter, § 271(b) should be afforded some extraterritorial reach. *See generally* Donald S. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 VA. J. INT'L L. 603, 614-16 (1997).

The Federal Circuit has confirmed the extraterritorial reach of § 271(b) by holding that affirmative acts that result in inducement may take place outside of the United States. For example, efforts in Hungary to encourage infringement of a U.S. patent within the United States would fall within the conduct proscribed by § 271(b). In *Merial Ltd. v. Cipla Ltd.*, the Federal Circuit noted that "Section 271(b) therefore does not, on its face, foreclose liability for extraterritorial acts that actively induce an act of direct infringement that occurs within the United States, and Appellants cite no authority to that effect. We therefore decline to read the statute as being so limited." 681 F.3d 1283,

1302 (Fed. Cir. 2012). As a result, the Federal Circuit has afforded this provision extraterritorial reach.

Prior to *Akamai*, the extraterritorial reach of active inducement was greatly circumscribed by the territorial limits in § 271(a). Because an act of direct patent infringement was necessary for there to be active inducement of infringement, the territorial limits of §271(a) effectively limited the extraterritorial reach of § 271(b). The induced acts of infringement had to take place within the United States.

The Federal Circuit expressly explored the territorial interaction of sections 271(a) and (b) in *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (2005). The patentee NTP accused Research in Motion of inducing infringement of its patented wireless email system and methods. Research in Motion's system operated in part in the United States and in part in Canada. The Federal Circuit concluded that there was no infringement of the patented methods because one of the steps was performed outside of the United States, in contravention of § 271(a)'s requirement that the method be used within the United States. *Id.* at 1318. Research in Motion, therefore, was not liable as an active inducer of the patented methods because there was no direct infringement under § 271(a).[2] *Id.* The territorial limits of § 271(a) therefore cabined

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[2] Research in Motion was found liable for inducing infringement of the system claims because the control and beneficial use of the system was within the United States, even though part of the system was in Canada. *Id.*

the reach of § 271(b): "a finding of direct infringement by RIM's customers under section 271(a) of the method claims ... is precluded by the location of RIM's Relay in Canada. *As a consequence, RIM cannot be liable for induced* or contributory *infringement* of the asserted method claims, as a matter of law." *Id.* (emphasis added and footnotes omitted).

2. By Divorcing Active Inducement Under § 271(b) from Direct Infringement Under § 271(a), the Federal Circuit Has Removed Any Express Territorial Limits on Active Inducement

In this case, however, the Federal Circuit has disrupted the territorial limits on § 271(b) by severing § 271(a) as a prerequisite for induced infringement. Specifically, the Federal Circuit eliminated the requirement that there be a direct infringer for inducement of infringement, thereby divorcing § 271(b) from § 271(a). *See Akamai*, 692 F.3d at 1338 (Linn, J., dissenting) ("Divorcing liability under § 271(a) from liability under § 271(b) is unsupported by the statute, subverts the statutory scheme, and ignores binding Supreme Court precedent."). In this case, there are no direct infringers because no single entity performs all of the steps of the claimed method. Additionally, none of the actors are agents of the accused infringer, nor do they have a contractual obligation to perform any of the steps of the claimed method. So there is no

direct infringer under Federal Circuit law. Nevertheless, because all of the steps of the method have been performed in the aggregate (regardless of by whom), there is potential liability for active inducement of infringement under the Federal Circuit's new rule in this case.

Section 271(a) therefore retains the "single entity" rule for direct infringement, yet § 271(b) does not. Because the court did not alter the single entity rule for § 271(a), the court necessarily has defined "infringement" under § 271(b) independently of the other infringement provisions. Section 271(b) is no longer tethered to § 271(a) explicitly, or else the "single entity" rule would still apply. *See generally* Holbrook, *Extraterritorial Consequences*, supra at 506-09.

The extraterritoriality issue arises from the separation of these two provisions. Section 271(a) contains the territorial restriction on infringement of a U.S. patent. Section 271(b) contains no such limit. By making § 271(b) its own, independent form of infringement, as a textual matter, there is no longer any territorial limit to inducing patent infringement. Specifically, by divorcing § 271(b) infringement from § 271(a), the majority has severed the territorial limits that previously limited § 271(b), as demonstrated in *NTP*. The Federal Circuit has *sub silentio* overruled *NTP*.

This gap in the statute strongly suggests that the Federal Circuit's interpretation is erroneous and should be rejected. Under *Akamai,* the Federal Circuit has no textual basis for limiting the extraterritorial scope of § 271(b). Indeed, in *Merial,*

it explicitly rejected any such limits. *See* 681 F.3d at 1302. Any resort to the common law to craft an extra-textual territorial restraint would be inappropriate, as this Court has previously recognized. *See Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 525–26 (1972) ("Under the common law this inventor had no right to exclude others from making and using his invention. If Laitram has a right to suppress Deepsouth's export trade it must be derived from its patent grant, and thus from the patent statute."). Territorial limits must be found in the statute; the Federal Circuit is not free to craft them through judicial gloss.

The Supreme Court has long recognized that the patent laws have strict territorial limits. *See Deepsouth*, 406 U.S. at 527 ("The statute makes it clear that it is not an infringement to make or use a patented product outside of the United States."); *Dowagiac Mfg. Co. v. Minn. Moline Plow Co.*, 235 U.S. 641, 650 (1915) ("The right conferred by a patent under our law is confined to the United States and its territories."); *Brown v. Duchesne*, 60 U.S. 183, 195 (1856) ("The power thus granted is domestic in its character, and necessarily confined within the limits of the United States."). This Court has confirmed that, even when Congress has provided extraterritorial reach to patents, courts should rely upon the presumption against extraterritoriality as tool of statutory construction to interpret such provisions narrowly. *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454-55 (2007) (interpreting 35 U.S.C. § 271(f) narrowly in light of the presumption).

These same precepts should inform the analysis here. The fact that the Federal Circuit's interpretation results in the extraterritorial expansion of the patent laws – particularly one unsupported by the text of the statute – suggests that its interpretation is wrong.

B. This Case Demonstrates How this Extraterritorial Expansion Could Arise, and Why the Court Should Reject the Federal Circuit's Interpretation of § 271(b)

As patented inventions are increasingly implemented on the Internet or over other networks that cross national borders, the issue of the extraterritorial reach under § 271(b) will come into play.

The facts of *Akamai* demonstrate how the issue will arise in future cases, if not in this one on remand. As the district court in this case explained, "[c]ontent service providers Akamai and Limelight both maintain their own content delivery network ('CDN') consisting of hundreds or thousands of servers located in multiple locations across the United States *and around the world*." *Akamai Techs., Inc. v. Limelight Networks, Inc.* 614 F. Supp. 2d 90, 96 (D. Mass. 2009) (emphasis added).

With servers around the world, it is highly likely that some uses of the patented method by the Petitioner Limelight and its customers relied upon servers located outside of the United States,

presenting the extraterritorial issue. Additionally, because the patented method is operated on the Internet, if any of Limelight's customers are outside of the United States, then extraterritorial issues could arise. Finally, extraterritorial implications of these systems could easily present themselves in the context of potential injunctive relief.. *See, e.g., International Rectifier Corp. v. Samsung Elecs. Co.*, 361 F.3d 1355,1359-61 (Fed. Cir. 2004); Holbrook, *Extraterritoriality, supra* at 2137-39, 2145-46.[3]

This issue is certain to arise in future cases. Indeed, the transborder use of systems and methods has already arisen in various cases, such as *NTP*, and is likely to arise again as Internet-based innovations develop and as global markets continue to grow. *See, e.g., CLS Bank Int'l v. Alice Corp. Pty.*

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[3] In their Brief in Opposition, Respondents dismissed the extraterritoriality issue because it is not present in the case. *See* Brief in Opposition, No. 12-786, at 34-35. That may be true *at present*, but the issue could easily present itself on remand. Additionally, the failure to plead the issue at the district court is utterly unsurprising because the Federal Circuit's law under *NTP* was crystal clear: there can be no infringement of a method claim if any step is performed outside of the United States. *See NTP*, 418 F.3d at 1318 (finding no infringement as a matter of law). As a result, it would have been pointless for Respondents to allege infringement based such transborder acts because such a claim would have been summarily dismissed. The Federal Circuit's reinterpretation of § 271(b) in this case, however, suggests that *NTP* has been overruled, opening the door to these types of claims. The Supreme Court should ensure that this door remains closed.

Ltd., 667 F. Supp. 2d 29 (D.D.C. 2009) (addressing infringement of trans-border computer system).[4]

Respondents' response to the extraterritoriality issue in its Brief in Opposition is unpersuasive, offering nothing to counter the textual problem created by the Federal Circuit's interpretation of the statute. Instead, Respondents merely argue that

> because the liability requirement of § 271(b) is not coupled to § 271(a) does not mean that the court will divorce itself from the territorial requirements of direct infringement—the same way that the Federal Circuit has not divorced itself from the notion that all steps of the method must be performed.

Brief in Opposition at 34. That argument misses the mark. First, it ignores the clear language of the statute and the absence of a territorial limit in § 271(b). Second, the requirement that all the steps of the method must be performed for there to be infringement is rooted in the nature of patent claims, not § 271(a). *See* 35 U.S.C. § 112(b) (requiring "claims particularly pointing out and distinctly claiming the subject matter which the

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[4] The district court's judgment in *CLS Bank* is currently being heard by this Court to determine whether the claimed invention constitutes patentable subject matter under 35 U.S.C. § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 734, 734-35 (2013) (granting writ of certiorari). The extraterritoriality issue in *CLS Bank* is not presently before this Court.

inventor ... regards as the invention."). If any of the steps are not performed, then there is no infringement because the requirements of the claim are not met. Unlike territorial limits, the requirement that all claimed steps must be performed is not anchored in the statutory text of § 271. Instead, that requirement flows from the requirement for claims because "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention...." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997).

The Respondents effectively have no response to the textual analysis of the statute provided in this brief. This Court can, and should, avoid any uncertainty as to the territorial scope of § 271(b) by rejecting the Federal Circuit's interpretation. By requiring an act of direct infringement under § 271(a) as a necessary condition for active inducement, this Court can avoid the potential extraterritorial consequences of the Federal Circuit's decision, consistent with the presumption against extraterritoriality. *See* Holbrook, *Extraterritorial Consequences*, *supra*, at 513.

CONCLUSION

The Supreme Court should reverse the Federal Circuit's judgment in this case and, in light of the presumption against the extraterritorial application of patent law, require a predicate act of direct infringement under § 271(a) in order for a party to be liable for actively inducing infringement under § 271(b). Requiring a predicate act of infringement under § 271(a) preserves the territorial limits of the statute.

Respectfully submitted,

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JOINT APPENDIX

No. 12-786

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

JOINT APPENDIX

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NOTICE

The following documents have been omitted in the printing of this Joint Appendix but may be found in the appendix to the petition for a writ of certiorari in this case:

En Banc Opinion of the United States Court of Appeals for the Federal Circuit, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos. 2009-1372 et al. (Aug. 31, 2012) 1a

Panel Opinion of the United States Court of Appeals for the Federal Circuit, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos. 2009-1372 et al. (Dec. 20, 2010) 100a

Memorandum and Order of the United States District Court for the District of Massachusetts, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, Civil Action No. 06-11109-RWZ (Apr. 24, 2009) 136a

Order Granting Rehearing *En Banc* of the United States Court of Appeals for the Federal Circuit, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos. 2009-1372 et al. (Apr. 20, 2011) ... 195a

Order Denying in Part and Granting in Part Motion for Reconsideration of the United States Court of Appeals for the Federal Circuit, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos. 2009-1372 et al. (Sept. 27, 2012) 198a

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UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.

v.

LIMELIGHT NETWORKS, INC.

CIVIL DOCKET

Date Filed	#	Docket Text
6/23/06	1	COMPLAINT against Limelight Networks, Inc. Filing fee: $350, receipt number 73337, filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A #2 Exhibit B #3 Civil Cover Sheet) (Johnson, Jay) (Entered: 06/27/2006)
		* * * * *
7/31/06	15	CORRECTED AMENDED COMPLAINT against Limelight Networks, Inc., filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Edgarton, G.) Modified on 8/1/2006 (Johnson, Jay). Additional

attachment(s) added on 8/1/2006 (Johnson, Jay). (Entered: 07/31/2006)

* * * * *

9/5/06 26 *Defendant Limelight Network's* ANSWER to Amended Complaint, COUNTERCLAIM *to Plaintiffs' Corrected Amended Complaint* against all plaintiffs by Limelight Networks, Inc. (Hampton, Daniel) (Entered: 09/05/2006)

* * * * *

9/19/06 30 Joint MOTION to Consolidate Cases by Massachusetts Institute of Technology, Limelight Networks, Inc., Akamai Technologies, Inc. (Edgarton, G.) (Entered: 09/19/2006)

* * * * *

9/21/06 Judge Rya W. Zobel: endorsed ORDER entered granting 30 Motion to Consolidate Cases (Urso, Lisa) (Entered: 09/22/2006)

* * * * *

9/25/06 35 ANSWER to Counterclaim by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 09/25/2006)

* * * * *

4/4/07 66 DECLARATION *of Stacy L. Blasberg* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A (Part 1 of 2) #2 Exhibit A (Part 2 of 2) #3 Exhibit B

#4 Exhibit C) (Blasberg, Stacy) (Entered: 04/04/2007)

* * * * *

4/4/07 68 BRIEF by Massachusetts Institute of Technology, Akamai Technologies, Inc. *Claim Construction Memorandum.* (Attachments: #1 Exhibit A #2 Exhibit B #3 Exhibit C #4 Exhibit D #5 Exhibit E #6 Exhibit F) (Perez-Albuerne, Carlos) Additional attachment(s) added on 4/19/2007 (Johnson, Jay). (Entered: 04/04/2007)

* * * * *

4/24/07 71 BRIEF by Limelight Networks, Inc. *Limelight Networks, Inc.'s Claim Construction Brief for U.S. Patent Nos. 6,108,703; 6,553,413; and 7,103,645.* (MacKinnon, Alexander) (Entered: 04/24/2007)

* * * * *

4/24/07 75 DECLARATION *of Timothy G. Majors in Support of Defendant Limelight Networks, Inc.'s Claim Construction Brief for U.S. Patent Nos. 6,108,703; 6,553,413; and 7,103,645* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1 #2 Exhibit 2 #3 Exhibit 3 #4 Exhibit 4 #5 Exhibit 5 #6 Exhibit 6 #7 Exhibit 7 #8 Exhibit 8 #9 Exhibit 9 #10 Exhibit 10 #11 Exhibit 11 #12 Exhibit 12 #13 Exhibit 13 #14 Exhibit 14 #15 Exhibit 15 #16 Exhibit 16 #17 Exhibit 17 #18 Exhibit 18 #19 Exhibit

19 #20 Exhibit 20 #21 Exhibit 21 #22 Exhibit 22 #23 Exhibit 23 #24 Exhibit 24 #25 Exhibit 25 #26 Exhibit 26 #27 Exhibit 27 #28 Exhibit 28 #29 Exhibit 29 #30 Exhibit 30 #31 Exhibit 31 #32 Exhibit 31A #33 Exhibit 32 #34 Exhibit 32A #35 Exhibit 33) (Majors, Timothy) (Entered: 04/24/2007)

* * * * *

4/24/07	77	EXHIBIT re 75 Declaration, *of Timothy G. Majors in Support of Limelight Inc.'s Claim Construction Brief for U.S. Patent Nos. 6,108,703; 6,553,413; and 7,103,645* Exhibits 34 through 40 by Limelight Networks, Inc. (Attachments: #1 Exhibit 35 #2 Exhibit 36 #3 Exhibit 37 #4 Exhibit 38 #5 Exhibit 39 #6 Exhibit 40) (Majors, Timothy) (Entered: 04/24/2007)

* * * * *

5/7/07	84	Sealed Document. (Corrected Tutorial) (Johnson, Jay) (Entered: 05/09/2007)
5/8/07	83	BRIEF by Limelight Networks, Inc. *Technology Tutorial.* (Attachments: #1 Part 2 #2 Part 3 #3 Part 4 #4 Part 5) (MacKinnon, Alexander) (Entered: 05/08/2007)
5/15/07	85	TRANSCRIPT of Technical Tutorial held on May 10, 2007 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained in the case file in the Clerk's Office. Copies may be obtained

by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 05/15/2007)

* * * * *

5/21/07 86 TRANSCRIPT of Technical Tutorial (Day Two) held on May 16, 2007 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained in the case file in the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 05/21/2007)

5/24/07 87 TRANSCRIPT of Markman Hearing held on May 17, 2007 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained in the case file in the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 05/24/2007)

5/30/07 88 MEMORANDUM OF LAW by Akamai Technologies, Inc. to 68 Brief. (Attachments: #1 Exhibit A #2 Exhibit B #3 Exhibit C) (Perez-Albuerne, Carlos) (Entered: 05/30/2007)

5/31/07 89 DECLARATION *of G. Mark Edgarton to Supplement Record* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A #2 Exhibit Exhibit B (Part

1 of 5) #3 Exhibit Exhibit B (Part 2 of 5) #4 Exhibit Exhibit B (Part 3 of 5) #5 Exhibit Exhibit B (Part 4 of 5) #6 Exhibit Exhibit B (Part 5 of 5) #7 Exhibit Exhibit C (Part 1 of 8) #8 Exhibit Exhibit C (Part 2 of 8) #9 Exhibit Exhibit C (Part 3 of 8) #10 Exhibit Exhibit C (Part 4 of 8) #11 Exhibit Exhibit C (Part 5 of 8) #12 Exhibit Exhibit C (Part 6 of 8) #13 Exhibit Exhibit C (Part 7 of 8) #14 Exhibit Exhibit C (Part 8 of 8) #15 Exhibit Exhibit D (Part 1 of 15) #16 Exhibit Exhibit D (Part 2 of 15) #17 Exhibit Exhibit D (Part 3 of 15) #18 Exhibit Exhibit D (Part 4 of 15) #19 Exhibit Exhibit D (Part 5 of 15) #20 Exhibit Exhibit D (Part 6 of 15) #21 Exhibit Exhibit D (Part 7 of 15) #22 Exhibit Exhibit D (Part 8 of 15) #23 Exhibit Exhibit D (Part 9 of 15) #24 Exhibit Exhibit D (Part 10 of 15) #25 Exhibit Exhibit D (Part 11 of 15) #26 Exhibit Exhibit D (Part 12 of 15) #27 Exhibit Exhibit D (Part 13 of 15) #28 Exhibit Exhibit D (Part 14 of 15) #29 Exhibit Exhibit D (Part 15 of 15)) (Edgarton, G.) Additional attachment(s) added on 6/1/2007 (Johnson, Jay). (Entered: 05/31/2007)

6/7/07 90 Response by Limelight Networks, Inc. to 88 Memorandum of Law *Regarding Term No. 1 of Akamai's Supplemental Claim Construction Brief.* (Attachments: #1 Exhibit A) (MacKinnon, Alexander) (Entered: 06/07/2007)

* * * * *

6/29/07	92	Judge Rya W. Zobel: ORDER regarding claim construction entered. (Urso, Lisa) (Entered: 06/29/2007)

* * * * *

8/16/07	103	MOTION for Entry of Judgment under Rule 54(b) *With Respect to U.S. Patent No. 7,103,645 and to Stay This Case* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 08/16/2007)

* * * * *

8/30/07	105	Opposition re 103 MOTION for Entry of Judgment under Rule 54(b) *With Respect to U.S. Patent No. 7,103,645 and to Stay This Case* filed by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 08/30/2007)
9/5/07		Judge Rya W. Zobel: endorsed ORDER entered denying 103 Motion for Entry of Judgment under Rule 54(b) (Urso, Lisa) (Entered: 09/06/2007)

* * * * *

12/28/07	112	MOTION for Summary Judgment by Limelight Networks, Inc. (Attachments: #1 Exhibit A) (MacKinnon, Alexander) (Entered: 12/28/2007)
12/28/07	113	MEMORANDUM in Support re 112 MOTION for Summary Judgment *of Noninfringement* filed by Limelight Networks, Inc. (Attachments: #1

Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17) (MacKinnon, Alexander) (Entered: 12/28/2007)

12/28/07 114 STATEMENT of facts re 112 MOTION for Summary Judgment *of Noninfrignement of U.S. Patent 7,103,645; 6,554,413; And 6,108,703.* (MacKinnon, Alexander) (Entered: 12/28/2007)

12/28/07 115 DECLARATION re 112 MOTION for Summary Judgment *of Noninfringement* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17) (MacKinnon, Alexander) (Entered: 12/28/2007)

12/28/07 116 DECLARATION re 112 MOTION for Summary Judgment by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 12/28/2007)

* * * * *

1/8/08 124 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defense of Patent Misuse* by Mas-

sachusetts Institute of Technology, Akamai Technologies, Inc. (Buchanan, Robert) (Entered: 01/08/2008)

1/8/08 125 MEMORANDUM in Support re 124 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defense of Patent Misuse* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Buchanan, Robert) (Entered: 01/08/2008)

1/8/08 126 STATEMENT of facts re 124 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defense of Patent Misuse Filed By Massachusetts Institute of Technology and Akamai Technologies, Inc.* (Buchanan, Robert) (Entered: 01/08/2008)

1/8/08 127 APPENDIX/EXHIBIT re 124 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defense of Patent Misuse (Appendix of Documents Cited in Support of Akamai's Motion for Partial Summary Judgment)* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C, #4 Exhibit D) (Buchanan, Robert) (Entered: 01/08/2008)

1/9/08 128 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel, And (IV) Unclean Hands* by Massachusetts Institute of Technology,

Akamai Technologies, Inc. (Buchanan, Robert) (Entered: 01/09/2008)

* * * * *

1/16/08 262 Sealed Document: Akamai's Opposition to Limelight's Motion for Summary Judgment of NonInfringement. (Document has Exceeded the Megabytes Limit) Not Available (Johnson, Jay) (Entered: 02/13/2008)

* * * * *

1/24/08 163 REPLY to Response to Motion re 112 MOTION for Summary Judgment *Of Nonfinfringement [Redacted Version]* filed by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 01/24/2008)

1/24/08 164 DECLARATION *Of Nick G. Saros In Support Of Defendant Limelight Networks, Inc.'s Reply Memorandum In Support Of Its Motion For Summary Judgment Of Noninfringement* by Limelight Networks, Inc. (Attachments: #1 Exhibit 18, #2 Exhibit 19, #3 Exhibit 20, #4 Exhibit 21, #5 Exhibit 22) (MacKinnon, Alexander) (Entered: 01/24/2008)

* * * * *

1/25/08 172 Sealed Document: Akamai's Memorandum in support of Akamai's motion for partial summary judgment dismissing Limelight's affirmative defenses of 1. Failure to provide notice, 2. Laches, 3. Equitable Estoppel, and 4. Unclean

Hands (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 173 Sealed Document: Statement of material facts in support of Akamai's motion for partial summary judgment dismissing the affirmative defenses of 1. Failure to provide notice, 2. Laches, 3. Equitable Estoppel, and 4. Unclean Hands. (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 174 Sealed Document: Appendix of documents cited in support of Akamai's partial motion for summary judgment dismissing the affirmative defenses of 1. Failure to provide notice, 2. Laches, 3. Equitable Estoppel, and 4. Unclean Hands. (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 175 Sealed Document: Akamai's Opposition to Limelight Networks Motion for summary judgment of non-infringement. (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 176 Sealed Document: Plaintiff's Counterstatement of facts in response to defendant Limelight Networks motion for summary judgment of non-infringement. (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 177 Sealed Document: Declaration of Mark Crovella, Ph.D. (Johnson, Jay) (Entered: 01/29/2008)

1/25/08 178 Sealed Document: Declaration of G. Mark Edgarton. (Bound Booklet) (Johnson, Jay) (Entered: 01/29/2008)

* * * * *

1/28/08 167 APPENDIX/EXHIBIT *Of Non-Confidential Documents Cited In Support Of Limelight Networks, Inc's And Opposition To Akamai's Motion For Partial Summary Judgment Dismissing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel And (IV) Unclean Hands And Statement Of Material Facts In Dispute* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17, #18 Exhibit 18, #19 Exhibit 19, #20 Exhibit 20, #21 Exhibit 21, #22 Exhibit 22, #23 Exhibit 23) (MacKinnon, Alexander) (Entered: 01/28/2008)

1/28/08 168 APPENDIX/EXHIBIT *Of Non-Confidential Documents Cited In Support Of Limelight Networks, Inc's Opposition To Akamai's Motion For Partial Summary Judgment On Limelight's Affirmative Defense Of Patent Misuse* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5

Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17, #18 Exhibit 18, #19 Exhibit 19, #20 Exhibit 20, #21 Exhibit 21, #22 Exhibit 22, #23 Exhibit 23, #24 Exhibit 24, #25 Exhibit 25A, #26 Exhibit 25B, #27 Exhibit 25C) (MacKinnon, Alexander) (Entered: 01/28/2008)

* * * * *

1/29/08 179 PRETRIAL MEMORANDUM by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12 (Part 1 of 2), #13 Exhibit 12 (Part 2 of 2), #14 Exhibit 13, #15 Exhibit 14) (Wilkins, Elizabeth) (Additional attachment(s) added on 1/30/2008: #16 Corrected Exhibit 6) (Johnson, Jay). (Entered: 01/29/2008)

* * * * *

1/30/08 180 NOTICE by Limelight Networks, Inc. *To The Court Regarding Limelight's Motion For Summary Judgment Of Noninfringement With Respect To The '645 Patent* (Saros, Nick) (Entered: 01/30/2008)

* * * * *

1/30/08	183	Sealed Document: Limelight's Reply Memorandum in support of its motion for summary judgment on non-infringement. (Johnson, Jay) Modified on 2/1/2008 (Johnson, Jay). (Entered: 02/01/2008)
1/30/08	184	Sealed Document: Limelight's Exhibit 8 to #115 Declaration of Nick G. Saros. (Johnson, Jay) Modified on 2/1/2008 (Johnson, Jay). (Entered: 02/01/2008)
1/30/08	185	Sealed Document: Limelight's Exhibit 13 to #115 Declaration of Nick G. Santos. (Johnson, Jay) (Entered: 02/01/2008)
1/30/08	186	Sealed Document: Limelight's Exhibit 14 to #115 Declaration of Nick G. Santos. (Johnson, Jay) Modified on 2/1/2008 (Johnson, Jay). (Entered: 02/01/2008)
1/30/08	187	Sealed Document: Limelight's Exhibit 15 to #115 Declaration of Nick G. Santos. (Johnson, Jay) (Entered: 02/01/2008)

* * * * *

2/5/08	232	REPLY to Response to 124 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defense of Patent Misuse* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Buchanan, Robert) (Entered: 02/05/2008)
2/5/08	233	REPLY to Response to 128 MOTION for Partial Summary Judgment *Dismiss-*

	ing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel, And (IV) Unclean Hands MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel, And (IV) Unclean Hands* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit B, #2 Exhibit C) (Buchanan, Robert) (Entered: 02/05/2008)
2/5/08	Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: granting in part and denying in part 112 Motion for Summary Judgment; granting 124 Motion for Partial Summary Judgment; granting in part and denying in part 128 Motion for Partial Summary Judgment; granting 218 Motion to Seal; granting 227 Motion to Seal; granting 230 Motion for Leave to File; Counsel using the Electronic Case Filing System should now file the document for which leave to file has been granted in accordance with the CM/ECF Administrative Procedures. Counsel must include – Leave to file granted on (date of order) – in the caption of the document; granting 231 Motion to Seal Document; Final Pretrial Conference held on 2/5/2008. 9 jurors; (Court Reporter: Catherine Handel.) (Attorneys present:

Frank & Krupka) (Urso, Lisa) (Entered: 02/07/2008)

* * * * *

2/8/08 240 TRANSCRIPT of Pretrial Conference/ Motions Hearing held on February 5, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 02/08/2008)

* * * * *

2/8/08 247 Judge Rya W. Zobel: ORDER on Patent Marking entered. Akamai's motion for summary judgment on the issue is denied. (Docket #128, I.) (Diblasi, Lily) (Entered: 02/08/2008)

2/8/08 248 Judge Rya W. Zobel: PRETRIAL ORDER entered. (Diblasi, Lily) (Entered: 02/08/2008)

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2/11/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day one held on 2/11/2008. Jury of 9 selected & sworn; Judge give Jury pre-charge; plaintiff's opening; defendant's opening; (Court Reporter: Catherine Handel.) (Attorneys present: Frank & Krupke) (Urso, Lisa) (Entered: 02/12/2008)

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2/12/08	251	Sealed Document: Corrected Akamai's Opposition to Limelight's Motion for Summary Judgment of Non-Infringement. (Johnson, Jay) (Entered: 02/12/2008)

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2/12/08	Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day two held on 2/12/2008. Defendant's opening continued; plaintiff's witness #1 F/ Thomas Leighton; direct; (Court Reporter: Catherine Handel.) (Attorneys present: Frank & Krupka) (Urso, Lisa) (Entered: 02/12/2008)
2/13/08	Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day three held on 2/13/2008. direct continued on Mr. Leighton; cross; redirect; recross; direct of Mark Crovella; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/19/2008)
2/14/08	Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day four held on 2/14/2008. continued direct of Mr. Crovella; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/19/2008)
2/15/08	Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day five held on 2/15/2008. continued cross of Mr. Crovella; redirect; direct of Edward McGowen;

cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/19/2008)

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2/19/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 6 held on 2/19/2008. continued cross of Mr. Gowan; redirect; 30b6 of Michael Gordan read; deposition of Niles McCarthy read; depo of Jeffrey Lunsford read; depo of Brad Harrell read; 30b6 depo of Michael Gordon shown; direct of Keith Raymond Ugone; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/22/2008)

2/20/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 7 held on 2/20/2008. continued direct of Ugone; cross; redirect; direct of Charles Donohue; cross; redirect; plaintiff rests subject to additional exhibits; defendant's rule 50 motion; Judge reserves; direct of Michael Gordon; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/22/2008)

2/21/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial day 8 held on 2/21/2008. continued direct of Mr. Gordon; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/22/2008)

2/22/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 9 held on 2/22/2008. direct of John Kelley; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/22/2008)

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2/25/08	269	BRIEF by Limelight Networks, Inc. *Offer Of Proof.* (Saros, Nick) (Entered: 02/25/2008)

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2/25/08	271	MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(a)* by Limelight Networks, Inc. (Krupka, Robert) (Entered: 02/25/2008)

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2/25/08	274	Supplemental MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(a)* by Limelight Networks, Inc. (Krupka, Robert) (Entered: 02/25/2008)
2/25/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 10 held on 2/25/2008. continued cross of Mr. Kelly; redirect; recross; continued cross; of Mr. Gordon; redirect; recross; direct of Kevin Almeroth; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/27/2008)

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2/26/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 11 held on 2/26/2008. continued cross of Almeroth; redirect; recross; re-redirect re-recross; direct of Chris Vellturo; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/27/2008)
2/26/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Hearing Out of Jury Presence held on 2/26/2008. Charge conference held; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/27/2008)

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2/27/08	282	MEMORANDUM OF LAW by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Buchanan, Robert) (Entered: 02/27/2008)
2/27/08	283	MOTION for Judgment as a Matter of Law *Pursuant to Fed.R.Civ.P. 50(a)* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 02/28/2008)
2/27/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial Day 12 held on 2/27/2008; continued cross of Vellturo; defendant rests; plaintiff moves for judgment under Rule50; court reserves; direct of Kevin Jeffay; cross; redirect; recross; direct of Crovella; cross; direct of Paul Sagan; (Court Reporter: Catherine

		Handel.) (Urso, Lisa) (Entered: 02/29/2008)
		* * * * *
2/28/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial day 13 held on 2/28/2008. Defendant's closing; plaintiff's closing; defendant's rebuttal Jury charge; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 02/29/2008)
		* * * * *
2/29/08		Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Jury Trial day 14 completed on 2/29/2008. Jury verdict at 1:40 p.m. (Court Reporter: Gibbons/Patrisso.) (Urso, Lisa) (Entered: 02/29/2008)
2/29/08	287	JURY VERDICT in favor of Akamai against Limelight. (Urso, Lisa) (Entered: 02/29/2008)
		* * * * *
3/6/08	289	TRANSCRIPT of Jury Trial Day One held on February 11, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/06/2008)
3/6/08	290	TRANSCRIPT of Jury Trial Day Four – First Session held on February 14, 2008 before Judge Zobel. Court

Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/06/2008)

3/10/08 291 TRANSCRIPT of Jury Trial Day Eleven – Charge Conference held on February 26, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 292 TRANSCRIPT of Jury Trial Day Twelve – First Session held on February 27, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 293 TRANSCRIPT of Jury Trial Day Thirteen – First Session held on February 28, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Of-

fice. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 294 TRANSCRIPT of Jury Trial Day Six – First Session held on February 19, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 295 TRANSCRIPT of Jury Trial Day Seven – Second Session held on February 20, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 296 TRANSCRIPT of Jury Trial Day Eight – First Session held on February 21, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 297 TRANSCRIPT of Jury Trial Day Nine – Second Session held on February 22, 2008 before Judge Zobel. Court

Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

3/10/08 298 TRANSCRIPT of Jury Trial Day Ten – First Session held on February 25, 2008 before Judge Zobel. Court Reporter: Catherine A. Handel. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/261-0555 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/10/2008)

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3/12/08 300 Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel, And (IV) Unclean Hands* MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses Of (I) Failure To Provide Notice, (II) Laches, (III) Equitable Estoppel, And (IV) Unclean Hands* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) Modified on 3/13/2008 (Johnson, Jay). (Entered: 03/12/2008)

3/12/08 301 MEMORANDUM in Support re 300 Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative MOTION Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) Modified on 3/13/2008 (Johnson, Jay). (Entered: 03/12/2008)*

3/12/08 302 STATEMENT of facts re 300 Renewed Motion for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative MOTION Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II)*

Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative. (Frank, Robert) Modified on 3/13/2008 (Johnson, Jay). (Entered: 03/12/2008)

3/12/08 303 DECLARATION re 300 Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative MOTION Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands re 128 MOTION for Partial Summary Judgment Dismissing Limelight's Affirmative by Massachusetts Institute of Technology, Akamai Technologies, Inc.*

(Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C) (Edgarton, G.) Modified on 3/13/2008 (Johnson, Jay). (Entered: 03/12/2008)

3/12/08 304 MOTION for Summary Judgment *With Respect to Limelight Networks, Inc.'s Affirmative Defense of Inequitable Conduct* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 03/12/2008)

3/12/08 305 STATEMENT of facts re 304 MOTION for Summary Judgment *With Respect to Limelight Networks, Inc.'s Affirmative Defense of Inequitable Conduct.* (Frank, Robert) (Entered: 03/12/2008)

3/12/08 306 MEMORANDUM in Support re 304 MOTION for Summary Judgment *With Respect to Limelight Networks, Inc.'s Affirmative Defense of Inequitable Conduct* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 03/12/2008)

3/12/08 307 DECLARATION re 304 MOTION for Summary Judgment *With Respect to Limelight Networks, Inc.'s Affirmative Defense of Inequitable Conduct* by Massachusetts Institute of Technology, Akamai Technologies, Inc.. (Attachments: #1 Exhibit A, #2 Exhibit B (Part 1 of 2), #3 Exhibit B (Part 2 of 2), #4 Exhibit C (Part 1 of 5), #5 Exhibit C (Part 2 of 5), #6 Exhibit C

(Part 3 of 5), #7 Exhibit C (Part 4 of 5), #8 Exhibit C (Part 5 of 5), #9 Exhibit D, #10 Exhibit E (Part 1 of 2), #11 Exhibit E (Part 2 of 2), #12 Exhibit F (Part 1 of 3), #13 Exhibit F (Part 2 of 3), #14 Exhibit F (Part 3 of 3), #15 Exhibit G, #16 Exhibit H, #17 Exhibit I, #18 Exhibit J, #19 Exhibit K, #20 Exhibit L) (Edgarton, G.) (Entered: 03/12/2008)

3/13/08 308 TRANSCRIPT of Jury Trial Day Fourteen – Verdict held on February 29, 2008 before Judge Zobel. Court Reporter: Marcia G. Patrisso. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/737-8728 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/13/2008)

3/14/08 309 MOTION for New Trial by Limelight Networks, Inc. (Krupka, Robert) (Entered: 03/14/2008)

3/14/08 310 MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(b) [RENEWED]* by Limelight Networks, Inc. (Krupka, Robert) (Entered: 03/14/2008)

3/14/08 311 MOTION for *Judgment of Obviousness* by Limelight Networks, Inc. (Krupka, Robert) (Entered: 03/14/2008)

* * * * *

3/21/08 315 MEMORANDUM in Support re 311 MOTION for *Judgment of Obviousness* filed by Limelight Networks, Inc.

(Attachments: #1 Exhibit 1, #2 Exhibit DX 19, #3 Exhibit DX 21, #4 Exhibit DX 588, #5 Exhibit DX 745, #6 Obviousness Appendix, #7 Transcript Appendix) (Krupka, Robert) (Entered: 03/21/2008)

3/28/08 316 TRANSCRIPT of Jury Trial Day Two (First Session) held on February 12, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 317 TRANSCRIPT of Jury Trial Day Three (First and Second Session) held on February 13, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 318 TRANSCRIPT of Jury Trial Day Four (Second Session) held on February 14, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08	319	TRANSCRIPT of Jury Trial Day Five (First Session) held on February 15, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)
3/28/08	320	TRANSCRIPT of Jury Trial Day Six (Second Session) held on February 19, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)
3/28/08	321	TRANSCRIPT of Jury Trial Day Seven (First Session) held on February 20, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)
3/28/08	322	TRANSCRIPT of Jury Trial Day Eight (Second Session) held on February 21, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter

at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 323 TRANSCRIPT of Jury Trial Day Nine (First Session) held on February 22, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 324 TRANSCRIPT of Jury Trial Day Ten (Second Session) held on February 25, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 325 TRANSCRIPT of Jury Trial Day Eleven (Second Session) held on February 26, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 326 TRANSCRIPT of Jury Trial Day Twelve (Second Session) held on February 27, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by

the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

3/28/08 327 TRANSCRIPT of Jury Trial Day Thirteen (Second Session-Jury Charge) held on February 28, 2008 before Judge Zobel. Court Reporter: Lisa W. Starr. The original transcripts are maintained by the Clerk's Office. Copies may be obtained by contacting the court reporter at 617/771-8336 or the Clerk's Office. (Scalfani, Deborah) (Entered: 03/28/2008)

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4/15/08 330 APPENDIX/EXHIBIT *Of Non-Confidential Exhibits Cited In Support Of Limelight Networks, Inc.'s Opposition To Akamai's Motion For Partial Summary Judgment Dismissing Limelight's Affirmative Defenses Of (I) Laches, (II) Equitable Estoppel And (III) Unclean Hands* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17, #18 Exhibit 18, #19 Exhibit 19, #20 Exhibit 20, #21 Exhibit 21, #22 Exhibit 22, #23 Exhibit 23, #24 Exhibit 24, #25 Exhibit

25) (MacKinnon, Alexander) (Entered: 04/15/2008)

4/15/08 331 APPENDIX/EXHIBIT *Of Non-Confidential Exhibits Cited In Support Of Limelight Networks, Inc.'s Opposition To Akamai's Motion For Summary Judgment With Respect To Limelight's Affirmative Defenses Of Inequitable Conduct* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11, #12 Exhibit 12, #13 Exhibit 13, #14 Exhibit 14, #15 Exhibit 15, #16 Exhibit 16, #17 Exhibit 17, #18 Exhibit 18, #19 Exhibit 19, #20 Exhibit 20, #21 Exhibit 21, #22 Exhibit 22, #23 Exhibit 23, #24 Exhibit 24, #25 Exhibit 25, #26 Exhibit 26, #27 Exhibit 27, #28 Exhibit 28) (MacKinnon, Alexander) (Entered: 04/15/2008)

4/15/08 332 Opposition re 309 MOTION for New Trial filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Perez-Albuerne, Carlos) (Entered: 04/15/2008)

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4/15/08 334 Opposition re 311 MOTION *for Judgment of Obviousness* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Perez-Albuerne, Carlos) (Entered: 04/15/2008)

4/15/08	335	APPENDIX/EXHIBIT re 332 Opposition to Motion by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit, #2 Exhibit, #3 Exhibit, #4 Exhibit, #5 Exhibit, #6 Exhibit, #7 Exhibit, #8 Exhibit, #9 Exhibit, #10 Exhibit, #11 Exhibit, #12 Exhibit, #13 Exhibit) (Perez-Albuerne, Carlos) (Entered: 04/15/2008)

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4/15/08	337	APPENDIX/EXHIBIT re 334 Opposition to Motion by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit, #2 Exhibit, #3 Exhibit, #4 Exhibit, #5 Exhibit, #6 Exhibit, #7 Exhibit, #8 Exhibit, #9 Exhibit, #10 Exhibit, #11 Exhibit) (Perez-Albuerne, Carlos) (Entered: 04/15/2008)
4/17/08	338	MOTION for Permanent Injunction by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit 1) (Frank, Robert) (Entered: 04/17/2008)
4/17/08	339	MEMORANDUM in Support re 338 MOTION for Permanent Injunction filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 04/17/2008)
4/17/08	340	DECLARATION re 338 MOTION for Permanent Injunction *by E. Page Wilkins, Esq.* by Massachusetts Institute of Technology, Akamai Technolo-

gies, Inc. (Attachments: #1 Exhibit A (Part 1 of 3), #2 Exhibit A (Part 2 of 3), #3 Exhibit A (Part 3 of 3), #4 Exhibit B, #5 Exhibit C, #6 Exhibit D, #7 Exhibit E, #8 Exhibit F, #9 Exhibit G, #10 Exhibit H, #11 Exhibit I) (Frank, Robert) (Entered: 04/17/2008)

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4/23/08 343 MEMORANDUM in Opposition re 310 MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(b) [RENEWED]* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 04/23/2008)

4/23/08 344 MEMORANDUM in Support re 309 MOTION for New Trial *Pursuant To Fed.R.Civ.P. 50 and 59 [Leave To File Granted April 23, 2008]* filed by Limelight Networks, Inc. (Attachments: #1 Exhibit DX 29, #2 Exhibit DX 30, #3 Exhibit DX 159, #4 Exhibit DX 167, #5 Transcript Appendix) (Krupka, Robert) (Entered: 04/23/2008)

4/23/08 345 MEMORANDUM in Support re 310 MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(b) [RENEWED] [Leave To File Granted April 23, 2008]* filed by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit DX 19, #5 Exhibit DX 35, #6 Exhibit DX 47, #7 Exhibit DX 218, #8 Exhibit DX 315, #9 Exhibit DX 444,

#10 Exhibit DX 580, #11 Exhibit PX 1, #12 Exhibit PX 713, #13 Exhibit PX 715, #14 Exhibit PX 717, #15 Anticipation Appendix, #16 Transcript Appendix) (Krupka, Robert) (Entered: 04/23/2008)

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4/24/08 353 Sealed Document: Limelight's Opposition to Akamai's Renewed Motion for Partial Summary Judgment Dismissing Limelight's Affirmative Defenses of (I) Laches, (II)Equitable Estoppel and (III) Unclean Hands. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 354 Sealed Document: DEFENDANT LIMELIGHT NETWORKS, INC.S STATEMENT OF MATERIAL FACTS IN DISPUTE IN RESPONSE TO AKAMAI TECHNOLOGIES, INC.S RENEWED MOTION FOR PARTIAL SUMMARY JUDGMENT DISMISSING LIMELIGHTS AFFIRMATIVE DEFENSES OF (I) LACHES, (II) EQUITABLE ESTOPPEL AND (III) UNCLEAN HANDS. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 355 Sealed Document: APPENDIX OF CONFIDENTIAL EXHIBITS CITED INSUPPORT OF LIMELIGHT NETWORKS, INC.S OPPOSITION TO AKAMAIS MOTION FOR PARTIAL SUMMARY JUDGMENT DISMISSING LIMELIGHTS AFFIRMATIVE DEFENSES OF (I) LACHES, (II)

EQUITABLE ESTOPPEL AND (III) UNCLEAN HANDS. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 356 Sealed Documents (Confidential Exhibits Cited in Appendix #355). (Attachments: Exhibit 4 #1 Exhibit 5, #2 Exhibit 6, #3 Exhibit 7, #4 Exhibit 9, #5 Exhibit 10, #6 Exhibit 11, #7 Exhibit 15, #8 Exhibit 16, #9 Exhibit 17, #10 Exhibit 18, #11 Exhibit 19, #12 Exhibit 20, #13 Exhibit 21, #14 Exhibit 22, #15 Exhibit 23, #16 Exhibit 24) (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 357 Sealed Document: LIMELIGHT NETWORKS, INC.S OPPOSITION TO AKAMAI TECHNOLOGIES, INC.S MOTION FOR SUMMARY JUDGMENT WITH RESPECT TO LIMELIGHT NETWORKS, INC.S AFFIRMATIVE DEFENSE OF INEQUITABLE CONDUCT. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 358 Sealed Document: DEFENDANT LIMELIGHT NETWORKS, INC.S STATEMENT OF MATERIAL FACTS IN DISPUTE IN RESPONSE TO AKAMAI TECHNOLOGIES, INC.S MOTION FOR SUMMARY JUDGMENT WITH RESPECT TO LIMELIGHTS AFFIRMATIVE DEFENSE OF INEQUITABLE CONDUCT. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 359 Sealed Document: APPENDIX OF CONFIDENTIAL EXHIBITS CITED

INSUPPORT OF LIMELIGHT NETWORKS, INC.S OPPOSITION TO AKAMAIS MOTION FOR SUMMARY JUDGMENT WITH RESPECT TO LIMELIGHTS AFFIRMATIVE DEFENSES OF INEQUITABLE CONDUCT. (Johnson, Jay) (Entered: 04/28/2008)

4/24/08 360 Sealed Document: (Confidential Exhibits Cited in Appendix #359). Main Document Exhibit 3 (Attachments: (1) Exhibit 7, #2 Exhibit 9, #3 Exhibit 11, #4 Exhibit 15, #5 Exhibit 24) (Johnson, Jay) Modified on 4/28/2008 (Johnson, Jay). (Entered: 04/28/2008)

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4/28/08 361 REPLY to Response to 304 MOTION for Summary Judgment *With Respect to Limelight Networks, Inc.'s Affirmative Defense of Inequitable Conduct* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 04/28/2008)

4/28/08 362 REPLY to Response to 300 MOTION for Partial Summary Judgment *Dismissing Limelight's Affirmative Defenses of (I) Laches, (II) Equitable Estoppel, and (III) Unclean Hands* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 04/28/2008)

4/28/08 363 REPLY to Response to 310 MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(b)*

[RENEWED] [Leave To File Granted On April 28, 2008] filed by Limelight Networks, Inc. (Attachments: #1 Exhibit DX 30, #2 Exhibit DX 745, #3 Exhibit PX 281, #4 Transcript Appendix) (Krupka, Robert) (Entered: 04/28/2008)

4/28/08 364 REPLY to Response to 309 MOTION for New Trial *[Leave To File Granted On April 28, 2008]* filed by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Transcript Appendix) (Krupka, Robert) (Entered: 04/28/2008)

4/28/08 365 REPLY to Response to 311 MOTION *for Judgment of Obviousness [Leave To File Granted On April 28, 2008]* filed by Limelight Networks, Inc. (Attachments: #1 Exhibit DX 29, #2 Exhibit DX 30, #3 Transcript Appendix) (Krupka, Robert) (Entered: 04/28/2008)

* * * * *

5/6/08 367 Sealed Document. Limelight's opposition to Akamai's motion for partial summary judgment (originally filed on 1/31/08, but not docketed) (Urso, Lisa) (Entered: 05/06/2008)

5/15/08 368 Opposition re 338 MOTION for Permanent Injunction filed by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit

6, #7 Exhibit DX 320, #8 Transcript Appendix) (Krupka, Robert) (Entered: 05/15/2008)

* * * * *

6/13/08 371 DECLARATION *of E. Page Wilkins, Esq. in Support of Akamai's Reply Memorandum for Akamai's Motion for a Permanent Injunction* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit J) (Frank, Robert) (Entered: 06/13/2008)

* * * * *

6/18/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Motion Hearing held on 6/18/2008 re 300 MOTION for Partial Summary Judgment filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 310 MOTION for Judgment as a Matter of Law *Pursuant To Fed. R. Civ. P. 50(b) [RENEWED]* filed by Limelight Networks, Inc., 311 *MOTION for Judgment of Obviousness* filed by Limelight Networks, Inc., 283 MOTION for Judgment as a Matter of Law *Pursuant to Fed.R.Civ.P. 50(a)* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 338 MOTION for Permanent Injunction filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 304 MOTION for Summary Judgment *With Respect to Limelight*

Networks, Inc.'s Affirmative Defense of Inequitable Conduct filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 309 MOTION for New Trial filed by Limelight Networks, Inc. Judge hears counsel and takes motions under advisement; (Court Reporter: Catherine Handel.) (Attorneys present: Frank & Krupka) (Urso, Lisa) (Entered: 06/19/2008)

* * * * *

6/30/08 375 Transcript of Motion Hearing held on June 18, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 7/18/2008. Redacted Transcript Deadline set for 7/28/2008. Release of Transcript Restriction set for 9/25/2008. (Scalfani, Deborah) (Entered: 06/30/2008)

* * * * *

6/30/08 Judge Rya W. Zobel: Electronic ORDER entered denying 300 Motion for Partial Summary Judgment. ("There are factual disputes") (Johnson, Jay) (Entered: 07/01/2008)

6/30/08 Judge Rya W. Zobel: Electronic ORDER entered denying 304 Motion for Summary Judgment. ("there are disputes of fact.") (Johnson, Jay) (Entered: 07/01/2008)

6/30/08		Judge Rya W. Zobel: Electronic ORDER entered denying 309 Motion for New Trial (Johnson, Jay) (Entered: 07/01/2008)
6/30/08		Judge Rya W. Zobel: Electronic ORDER entered denying 310 Motion for Judgment as a Matter of Law. (Johnson, Jay) (Entered: 07/01/2008)
6/30/08		Judge Rya W. Zobel: Electronic ORDER entered denying 311 Motion for judgment of obviousness (Johnson, Jay) (Entered: 07/01/2008)
6/30/08		Judge Rya W. Zobel: Electronic ORDER entered denying 338 Motion for Permanent Injunction "as premature" (Johnson, Jay) (Entered: 07/01/2008)

* * * * *

7/25/08	377	MOTION for Reconsideration *of the Court's Denial of Limelight's Motion for Judgment as a Matter of Law Based on New Case Law* by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 07/25/2008)
7/25/08	378	MEMORANDUM in Support re 377 MOTION for Reconsideration *of the Court's Denial of Limelight's Motion for Judgment as a Matter of Law Based on New Case Law* filed by Limelight Networks, Inc. (Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C, #4 Exhibit D) (MacKinnon, Alexander) (Entered: 07/25/2008)

* * * * *

8/8/08	379	MEMORANDUM in Opposition re 377 MOTION for Reconsideration *of the Court's Denial of Limelight's Motion for Judgment as a Matter of Law Based on New Case Law* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Frank, Robert) (Entered: 08/08/2008)
8/8/08	380	APPENDIX/EXHIBIT re 379 Memorandum in Opposition to Motion, by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C, #4 Exhibit D) (Frank, Robert) (Entered: 08/08/2008)

* * * * *

8/14/08	382	REPLY to Response to 377 MOTION for Reconsideration *of the Court's Denial of Limelight's Motion for Judgment as a Matter of Law Based on New Case Law [Leave to File Granted on August 14, 2008]* filed by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 08/14/2008)

* * * * *

8/26/08	385	REPLY to Response to 338 MOTION for Permanent Injunction filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit 1) (Frank, Robert) (Entered: 08/26/2008)

* * * * *

9/17/08 388 Request for Judicial Notice *That Claims 1 And 3 Of U.S. Patent No. 6,108,703 Were Held To Be Anticipated By U.S. Patent No. 6,185,598* by Limelight Networks, Inc. (MacKinnon, Alexander) (Entered: 09/17/2008)

* * * * *

11/10/08 392 MEMORANDUM OF LAW by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A) (Frank, Robert) (Entered: 11/10/2008)

11/10/08 393 BRIEF by Limelight Networks, Inc. *Regarding Affirmative Defenses of Inequitable Conduct, Laches, and Equitable Estoppel.* (MacKinnon, Alexander) (Entered: 11/10/2008)

11/11/08 394 PRETRIAL MEMORANDUM by Limelight Networks, Inc., Akamai Technologies, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7, #8 Exhibit 8, #9 Exhibit 9, #10 Exhibit 10, #11 Exhibit 11) (MacKinnon, Alexander) (Entered: 11/11/2008)

11/12/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Bench Trial Day One held on 11/12/2008. Opening statement by Mr. Frank; direct of Goolkasian; cross; redirect; deposition testimony of Dan Lewin read; direct of Michael Gordon; cross;

(Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 11/21/2008)

11/13/08 395 Sealed Document: Memorandum in Support of the Admissibility of Sandpiper Press Releases and Related Deposition Testimony. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6, #7 Exhibit 7) (Johnson, Jay) (Entered: 11/14/2008)

11/13/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Bench Trial Day Two held on 11/13/2008. no closing argument on Friday; briefs and proposed findings 12/5/08; reply brief 3 pages 12/12/08; possible closing 12/19/08; continued cross of Gordon; redirect; recross; direct of Kevin Almeroth; cross; Limelight rests; Akamai files for partial findings; (Reserved); direct of Tom Leighton; cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) Modified on 11/21/2008 (Urso, Lisa). (Entered: 11/21/2008)

* * * * *

11/14/08 Electronic Clerk's Notes for proceedings held before Judge Rya W. Zobel: Bench Trial Day Three on 11/14/2008. continued cross of Dr. Leighton; redirect; direct of David Judson; cross; redirect; recross; direct of Stephen Kuain; cross; direct of Kevin Jeffrey; cross; redirect; direct of Robert Wood;

cross; (Court Reporter: Catherine Handel.) (Urso, Lisa) (Entered: 11/21/2008)

11/17/08 397 Transcript of Bench Trial – Day Three (First Session) held on November 14, 2008, before Judge Zobel. Court Reporter: Helana E. Kline at 508/525-7769. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 12/5/2008. Redacted Transcript Deadline set for 12/15/2008. Release of Transcript Restriction set for 2/12/2009. (Scalfani, Deborah) (Entered: 11/17/2008)

* * * * *

11/26/08 399 MOTION To Admit Trial Exhibit DX1228 by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4) (Krupka, Robert) (Entered: 11/26/2008)

* * * * *

12/8/08 406 Sealed Document: Akamai's memorandum in opposition to the admissibility of Sandpiper Press Releases and related deposition testimony (Attachments: #1 Exhibit A-B, #2 Exhibit C-E) (Johnson, Jay) (Entered: 12/09/2008)

12/9/08 407 TRIAL BRIEF *Regarding Inequitable Conduct, Equitable Estoppel, Laches and Unclean Hands* by Limelight Networks, Inc. (Attachments: #1 Exhibit A,

#2 Exhibit B, #3 Exhibit C) (Krupka, Robert) (Entered: 12/09/2008)

12/9/08 408 TRIAL BRIEF *Regarding Inequitable Conduct, Laches and Equitable Estoppel* by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C) (Frank, Robert) (Entered: 12/09/2008)

* * * * *

12/10/08 410 Opposition re 399 MOTION To Admit Trial Exhibit DX1228 *Selected Testimony of Dr. Leighton From the Akamai v. Digital Island Litigation* filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Attachments: #1 Exhibit A, #2 Exhibit B, #3 Exhibit C) (Perez-Albuerne, Carlos) (Entered: 12/10/2008)

* * * * *

12/12/08 412 EXHIBIT to *Limelight's Reply in Further Support of the Admissibility of Sandpiper Press Releases and Related Deposition Testimony [Public Exhibits]* by Limelight Networks, Inc. (Attachments: #1 Exhibit 1, #2 Exhibit 2, #3 Exhibit 3, #4 Exhibit 4, #5 Exhibit 5, #6 Exhibit 6) (MacKinnon, Alexander) (Entered: 12/12/2008)

* * * * *

12/16/08 414 Response by Limelight Networks, Inc. in *Further Support of Its Inequitable Conduct, Equitable Estoppel, Laches,*

and Unclean Hands Defenses. (Krupka, Robert) (Entered: 12/16/2008)

12/16/08 415 Response by Massachusetts Institute of Technology, Akamai Technologies, Inc. to 407 Trial Brief *Regarding Limelight's Defenses of Inequitable Conduct, Laches, Equitable Estoppel and Unclean Hands.* (Attachments: #1 Exhibit A, #2 Exhibit B) (Frank, Robert) (Entered: 12/16/2008)

* * * * *

4/24/09 422 Judge Rya W. Zobel: ORDER entered granting 377 Motion for Reconsideration; denying 399 Motion; granting 413 Motion for Leave to File; Counsel using the Electronic Case Filing System should now file the document for which leave to file has been granted in accordance with the CM/ECF Administrative Procedures. Counsel must include – Leave to file granted on (date of order) – in the caption of the document. (Diblasi, Lily) (Entered: 04/24/2009)

* * * * *

5/22/09 429 Judge Rya W. Zobel: ORDER entered. Final Judgment entered. Associated Cases: 1:06-cv-11109-RWZ, 1:06-cv-11585-RWZ (Urso, Lisa) Modified on 6/5/2009 (Johnson, Jay). (Entered: 05/27/2009)

5/26/09 428 NOTICE OF APPEAL of 422 Memorandum and Order and Orders of

2/5/08 to the Federal Circuit by Massachusetts Institute of Technology, Akamai Technologies, Inc. Filing fee $455, receipt number 0101000000000 2439114. Appeal Record due by 6/15/2009. (Edgarton, G.) (Additional attachment(s) added on 5/28/2009: #1 Corrected Main Document) (Johnson, Jay). Modified on 6/5/2009 (Johnson, Jay). (Entered: 05/26/2009)

* * * * *

6/4/09 431 Transcript of Bench Trial – Day One held on November 12, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

6/4/09 432 Transcript of Bench Trial – Day Two held on November 13, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set

for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

6/4/09 433 Transcript of Bench Trial – Day Three (Second Session) held on November 14, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

6/4/09 434 Transcript of Jury Trial Day Five – Second Session held on February 15, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

6/4/09 435 Transcript of Jury Trial Day Eleven – First Session held on February 26, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or

viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

6/4/09 436 Transcript of Jury Trial Day Two – Second Session held on February 12, 2008, before Judge Zobel. Court Reporter: Catherine A. Handel at 617/261-0555. The Transcript may be purchased through the Court Reporter, viewed at the public terminal, or viewed through PACER after it is released. Redaction Request due 6/22/2009. Redacted Transcript Deadline set for 7/2/2009. Release of Transcript Restriction set for 8/31/2009. (Scalfani, Deborah) (Entered: 06/04/2009)

* * * * *

6/4/09 439 NOTICE OF CROSS APPEAL of 429 Final Judgment by Limelight Networks, Inc. Filing fee $455, receipt number 0101000000002453970. NOTICE TO COUNSEL: A Transcript Report/Order Form, which can be downloaded from the First Circuit Court of Appeals web site at http://www.ca1.uscourts.gov/clerks/transcript.htm MUST be completed and submitted to the Court of Appeals. Appeal Record due by 6/24/2009. (Krupka, Robert) Modified on 6/5/2009 (Johnson, Jay). (Entered: 06/04/2009)

6/4/09 440 NOTICE OF (CROSS) APPEAL to the Federal Circuit as to 422 Order on Motion for Reconsideration, Order on Motion for Miscellaneous Relief, Order on Motion for Leave to File, Order on Motion for New Trial, 429 Final Judgment, Order on Motion for Miscellaneous Relief, Order on Motion for Summary Judgment, Order on Motion for Partial Summary Judgment, Order on Motion to Seal, Order on Motion for Leave to File, Order on Motion to Seal Document, Pretrial Conference – Final,,,,,,,,,,,,,,,,,,,,,,,,,,,, 246 Order, Order on Motion for Judgment as a Matter of Law, 92 Order by Limelight Networks, Inc. Appeal Record due by 6/24/2009. (Johnson, Jay) (Entered: 06/05/2009)

6/11/09 441 USCA Case Number 09-1380 for 428 Notice of Appeal to the Federal Circuit, filed by Massachusetts Institute of Technology, Akamai Technologies, Inc. (Ramos, Jeanette) (Entered: 06/11/2009)

* * * * *

6/19/09 443 NOTICE by Massachusetts Institute of Technology, Akamai Technologies, Inc. re 429 Judgment, 428 Notice of Appeal to the Federal Circuit, *(SUPPLEMENT TO NOTICE OF APPEAL)* (Frank, Robert) (Entered: 06/19/2009)

6/30/09 444 USCA Case Number 09-1417 for 440 Notice of Appeal to the Federal Cir-

cuit, filed by Limelight Networks, Inc. (Ramos, Jeanette) (Entered: 06/30/2009)

* * * * *

9/6/12	449	OPINION filed and JUDGMENT entered of USCA as to 428 Notice of Appeal to the Federal Circuit, filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 440 Notice of Appeal to the Federal Circuit, filed by Limelight Networks, Inc. Issued in the USCA 8/31/2012. (Attachments: #1 Part 2) (Ramos, Jeanette) (Attachment 1 replaced on 11/9/2012) (Ramos, Jeanette). (Entered: 09/06/2012)
11/9/12	450	MANDATE of USCA as to 428 Notice of Appeal to the Federal Circuit, filed by Massachusetts Institute of Technology, Akamai Technologies, Inc., 440 Notice of Appeal to the Federal Circuit, filed by Limelight Networks, Inc. Appeal 428, 440 Terminated. REVERSED AND REMANDED (Ramos, Jeanette) (Entered: 11/09/2012)
11/13/12	451	Case Reopened per 450 (Duong, Diep) (Entered: 11/13/2012)

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Nos. 2009-1372, 2009-1380, 2009-1416, 2009-1417

AKAMAI TECHNOLOGIES, INC.,
Plaintiff-Appellant,

AND

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,
Defendant-Cross Appellant.

DATE	DOCKET ENTRY
6/2/09	2009-1372 appeal docketed
6/9/09	2009-1380 appeal docketed
6/22/09	2009-1416 appeal docketed
6/22/09	2009-1417 appeal docketed
6/22/09	Entry 14 – Note to file: Appeal 2009-1372 and 2009-1416 (docketed on 6/22/09) are consolidated
8/5/09	Entry 21 [2009-1380] Ordered: Appeals 2009-1380,-1417 are consolidated with appeals 2009-1372,-1416. [See Lead appeal 2009-1372 for all further entries.]
9/15/09	Corrected Brief of Plaintiffs-Appellants Akamai Technologies, Inc. and The

	Massachusetts Institute of Technology. BY Akamai Technologies, Inc. and The Massachusetts Institute of Technology (Appellants). SERVED BY Mail ON 3/8/2010. FILED ON 9/15/2009. (NON-CONFIDENTIAL)
12/9/09	Principal and Response Brief of Defendant-Cross-Appellant Limelight Networks, Inc. BY Limelight Networks, Inc. (Cross-Appellant). SERVED BY Mail ON 12/9/2009. FILED ON 12/9/2009. (NONCONFIDENTIAL)
2/11/10	Response and Reply Brief of Plaintiffs-Appellants Akamai Technologies, Inc. and The Massachusetts Institute of Technology. BY Akamai Technologies, Inc. and The Massachusetts Institute of Technology (Appellants). SERVED BY Mail ON 2/11/2010. FILED ON 2/11/2010. (NON-CONFIDENTIAL)
3/10/10	Reply Brief of Defendant-Cross-Appellant Lime Light Networks, Inc. BY Limelight Networks, Inc. (Cross-Appellant). SERVED BY Mail ON 3/10/2010. FILED ON 3/10/2010. (NON-CONFIDENTIAL)
3/16/10	Joint Appendix (Two Volumes). BY Akamai Technologies, Inc. (Appellant). SERVED BY Mail ON 3/16/2010. FILED ON 3/16/2010. (CONFIDENTIAL & NON-CONFIDENTIAL VERSIONS)
4/21/10	Entry 51 – NOTICE OF CALENDAR-ING issued. Panel: 1006B on June 7, 2010.

6/7/10	Entry 55 – Submitted after ORAL ARGUMENT by Donald R. Dunner and Alexander F. MacKinnon. Panel: Rader, Linn and Prost.
2/18/11	Entry 60 – Appellant [Akamai Technologies, Inc.] Combined Petition for Panel Rehearing and Rehearing En Banc. Filed: 2/18/2011.
3/8/11	Response requested from: Cross-Appellant (Limelight Networks, Inc.). Response due: 3/22/2011. Response filed: 3/22/2011.
4/20/11	Entry 62 – Petition/En Banc Action: Denied/Granted on 4/20/2011.
4/20/11	Entry 63 – ORDERED: (1) The petition for panel rehearing is denied; (2) the petition for rehearing en banc is granted; (3) the court's 12/20/10 opinion is vacated, and the appeal is reinstated; (4) the parties are requested to file new briefs (continued).
	Entry 64 – See order for details regarding issues to be briefed, filing requirements, participation by amici curiae. En banc. PER CURIAM.
5/4/11	Entry 65 – NOTE TO FILE: An original and thirty copies of the Principal and Response Brief of Defendant-Cross Appellant Limelight Networks, Inc. received by the court per order dated 4/20/2011.
5/9/11	Entry 67 – NOTE TO FILE: An original and thirty copies of the Response and

	Reply Brief of Plaintiffs-Appellants Akamai Technologies, Inc and The Massachusetts Institute of Technology received by the court per order dated 4/20/2011.
5/9/11	Entry 68 – NOTE TO FILE: An original and thirty copies of the Joint Appendix received by the court per order dated 4/20/2011.
5/18/11	Amicus Curiae Brief of Cascades Ventures, Inc. and VNS Corporation in Support of Plaintiffs-Appellants and in Support of Reversal. BY Cascade Ventures, Inc. and VNS Corporation (Amicus). SERVED BY Mail ON 5/17/2011. FILED ON 5/18/2011. (NON-CONFIDENTIAL)
6/20/11	Principal Brief for Plaintiff-Appellant Akamai Technologies, Inc. on Rehearing En Banc. BY Akamai Technologies, Inc. and The Massachusetts Institute of Technology (Appellants). SERVED BY Mail ON 6/20/2011. FILED ON 6/20/2011. (NON-CONFIDENTIAL)
6/24/11	Corrected Brief for Shuffle Master, Inc. as Amicus Curiae in Support of Neither Party. BY Shuffle Master, Inc. (Amicus). SERVED BY Mail ON 7/8/2011. FILED ON 6/24/2011. (NON-CONFIDENTIAL)
6/27/11	Corrected Brief of Amicus Curiae Myriad Genetics, Inc. in support of Neither Party. BY Myriad Genetics, Inc. (Amicus). SERVED BY Mail ON

7/13/2011. FILED ON 6/27/2011. (NON-CONFIDENTIAL)

6/27/11 Corrected Brief of Amici Curiae Aristocrat Tech Austrailia PTY Limited and Aristocrat Tech Inc. in Support of Appellants Akamai Tech., Inc. and MIT and Supporting Reversal. BY Aristocrat Technologies Australia PTY Limited, et al. (Amici). SERVED BY Mail ON 7/7/2011. FILED ON 6/27/2011. (NON-CONFIDENTIAL)

6/27/11 Brief of Amicus Curiae Boston Patent Law Association in Support of Appellant on Rehearing En Banc. BY Boston Patent Law Association (Amicus). SERVED BY Mail ON 6/27/2011. FILED ON 6/27/2011. (NON-CONFIDENTIAL)

7/1/11 Brief of Amicus Curiae American Intellectual Property Law Association In Support of Reversal, But in Support of Neither Party. BY American Intellectual Property Law Association (Amicus). SERVED BY Mail ON 7/1/2011. FILED ON 7/1/2011. (NON-CONFIDENTIAL)

7/5/11 Amicus Curiae Brief of Biotechnology Industry Organization in Support of Neither Party. BY Biotechnology Industry Organization (Amicus). SERVED BY Mail ON 7/5/2011. FILED ON 7/5/2011. (NON-CONFIDENTIAL)

7/5/11 Brief of Amicus Curiae Pharmaceutical Research and Manufacturers of America on Rehearing En Banc in Support of Neither Party. BY Pharmaceutical

Research and Manufacturers of America (Amicus). SERVED BY Mail ON 7/5/2011. FILED ON 7/5/2011. (NON-CONFIDENTIAL)

7/6/11 Corrected Brief of Amicus Curiae Conejo Valley Bar Association in Support of Neither Party and With no Interest in the Outcome of the Case. BY Conejo Valley Bar Association (Amicus). SERVED BY Mail ON 7/8/2011. FILED ON 7/6/2011. (NON-CONFIDENTIAL)

8/3/11 Brief of Defendant-Cross Appellant, Limelight. BY Limelight Networks, Inc. (Cross-Appellant). SERVED BY Mail ON 8/3/2011. FILED ON 8/3/2011. (NON-CONFIDENTIAL)

8/9/11 Amicus Curiae Brief by Washington State Patent Law Association. BY Washington State Patent Law Association (Amicus). SERVED BY Mail ON 8/9/2011. FILED ON 8/9/2011. (NON-CONFIDENTIAL)

8/9/11 Brief of Amicus Curiae Electronic Frontier Foundation in Support of Defendant. BY Electronic Frontier Foundation (Amicus). SERVED BY Mail ON 8/9/2011. FILED ON 8/9/2011. (NON-CONFIDENTIAL)

8/10/11 Brief of Amicus Curiae Thomson Reuters Corporation in support of Defendant-Cross Appellant Limelight Networks, Inc. and supporting affirmance. BY Thomson Reuters Corporation (Amicus). SERVED BY Mail ON 8/10/2011.

	FILED ON 8/10/2011. (NON-CONFIDENTIAL)
8/10/11	Brief of Amicus Curiae The Financial Services Roundtable in Support of Limelight Networks, Inc. and Affirmance. BY The Financial Services Roundtable (Amicus). SERVED BY Mail ON 8/10/2011. FILED ON 8/10/2011. (NON-CONFIDENTIAL)
8/10/11	Amici Curiae Internet Retailers' Brief in Support of Defendant/Cross-Appellant's En Banc Response Brief. BY Internet Retailers (Amicus). SERVED BY Mail ON 8/10/2011. FILED ON 8/10/2011. (NON-CONFIDENTIAL)
8/10/11	Brief of Amicus Curiae New York Intellectual Property Law Association in Support of Defendant-Cross Appellant on Rehearing En Banc. BY New York Intellectual Property Law Association (Amicus). SERVED BY Mail ON 8/10/2011. FILED ON 8/10/2011. (NON-CONFIDENTIAL)
8/10/11	Brief of Amicus Curiae Altera Corporation, HTC Corporation, HTC America, Inc. and Weatherford International in Support of Limelight Networks, Inc. BY Altera Corporation, HTC Corporation, HTC America, Inc., and Weatherford International (Amici). SERVED BY Mail ON 8/10/2011. FILED ON 8/10/2011. (NON-CONFIDENTIAL)
8/11/11	Brief of CTIA The Wireless Association and MetroPCS Wireless, Inc. as Amicus

Curiae in support of Defendant Cross Appellant on Rehearing En Banc. BY CTIA The Wireless Association, et al. (Amicus). SERVED BY Mail ON 8/11/2011. FILED ON 8/11/2011. (NON-CONFIDENTIAL)

8/15/11 Corrected Brief of Amici Curiae Cisco Systems, Inc., et al. BY Cisco Systems, Inc. (Amicus). SERVED BY Mail ON 8/31/2011. FILED ON 8/15/2011. (NON-CONFIDENTIAL)

8/15/11 Brief of Amicus Curiae Apple Inc. in support of Defendant-Cross Appellant on Rehearing En Banc. BY Apple Inc. (Amicus). SERVED BY Mail ON 8/15/2011. FILED ON 8/15/2011. (NON-CONFIDENTIAL)

8/15/11 Brief of Amici Curiae San Diego Intellectual Property Law Association, et al. BY The San Diego Intellectual Property Law Association, et al. (Amicus). SERVED BY Mail ON 8/15/2011. FILED ON 8/15/2011. (NON-CONFIDENTIAL)

8/15/11 Amici Curiae Brief of Facebook, Inc. and Linkedin Corporation in support of Limelight and Affirmance. BY Facebook, Inc. and Linkedin Corporation (Amicus). SERVED BY Mail ON 8/15/2011. FILED ON 8/15/2011. (NON-CONFIDENTIAL)

9/6/11 Reply Brief for Plaintiff-Appellant Akamai Technologies, Inc. on Rehearing En Banc. BY Akamai Technologies, Inc. (Appellant). SERVED BY Mail ON

	9/6/2011. FILED ON 9/6/2011. (NON-CONFIDENTIAL)
9/20/11	Entry 215 – Order: Oral argument is scheduled for 11/18/11 in Courtroom 201. Each side will have 30 min. for oral argument. 2009-1372 will be heard at 2 p.m.; 2010-1291 will be heard at 3 p.m. (see order) By Clerk for the Court. (Panel 1111L)
11/18/11	Entry 220 – Submitted after ORAL ARGUMENT by Donald R. Dunner and Aaron M. Panner. Panel: En Banc.
8/31/12	Entry 221 – Reversed and remanded by en banc
	Entry 222 – (Cont. of entry #221): Dyk, Prost, and O'Malley join the dissent filed by J. Linn.
9/6/12	Entry 223 – Errata sheet to the precedential opinion issued 8/31/12.
9/12/12	Entry 224 – Cross-Appellant Limelight's Motion for Rehearing and/or Clarification (treated as a motion for clarification)
9/24/12	Entry 226 – Reply 1 to Cross-Appellant Limelight's Motion for Rehearing and/or Clarification
9/27/12	Entry 227 – (1) The court grants Limelight's request to reinstate the portions of the panel's judgment and opinion affirming the district court's entry of judgment of noninfringement of the '645 and '413 patents (con't)

	Entry 228 – ORDERED: (con't from prior entry): (2) The court denies Limelight's request to remand this case to the panel to address two additional issues raised in Limelight's motion; and (3) the motion in all other respects is denied.
9/28/12	Entry 229 – Reply 2 to Cross-Appellant Limelight's Motion for Rehearing and/or Clarification
1/2/13	Entry 233 – Notice from the Clerk of the Supreme Court of the United States that a petition for a writ of certiorari was filed on December 28, 2012 and placed on the docket as No. 12-786, Limelight Networks, Inc. v. Akamai Technologies, Inc., et al.

US006108703A

United States Patent [19]

Leighton et al.

[11] Patent Number: 6,108,703

[45] Date of Patent: Aug. 22, 2000

[54] GLOBAL HOSTING SYSTEM

[75] Inventors: F. Thomson Leighton, Newtonville, Daniel M. Lewin, Cambridge, both of Mass.

[73] Assignee: Massachusetts Institute of Technology, Cambridge, Mass.

[21] Appl. No.: 09/314,863

[22] Filed: May 19, 1999

Related U.S. Application Data

[60] Provisional application No. 60/092,710, Jul. 14, 1998.

[51] Int. Cl.[7] G06F 13/00

[52] U.S. Cl. 709/226; 709/105, 709/219, 709/223; 709/224; 709/235

[58] Field of Search 707/10, 2, 104, 707/203, 500, 501, 511, 512, 513, 515; 709/200, 201, 203, 218, 219, 230, 235, 238, 245, 246, 226, 224, 105, 220; 711/118, 119, 120, 122, 126, 130, 200, 202, 216

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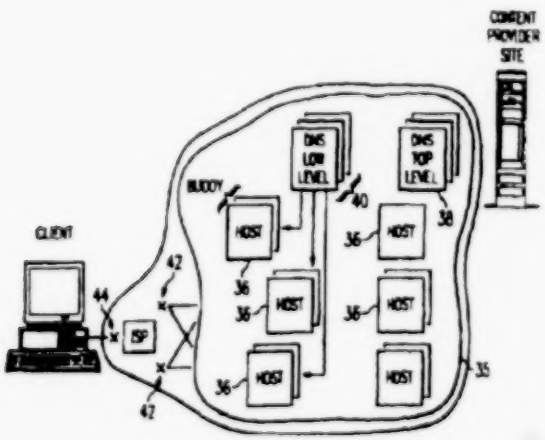
Assistant Examiner—Abdullahi E. Salad
Attorney, Agent, or Firm—David H. Judson

[57] ABSTRACT

The present invention is a network architecture or framework that supports hosting and content distribution on a truly global scale. The inventive framework allows a Content Provider to replicate and serve its most popular content at an unlimited number of points throughout the world. The inventive framework comprises a set of servers operating in a distributed manner. The actual content to be served is preferably supported on a set of hosting servers (sometimes referred to as ghost servers). This content comprises HTML page objects that, conventionally, are served from a Content Provider site. In accordance with the invention, however, a base HTML document portion of a Web page is served from the Content Provider's site while one or more embedded objects for the page are served from the hosting servers, preferably, those hosting servers near the client machine. By serving the base HTML document from the Content Provider's site, the Content Provider maintains control over the content.

34 Claims, 2 Drawing Sheets



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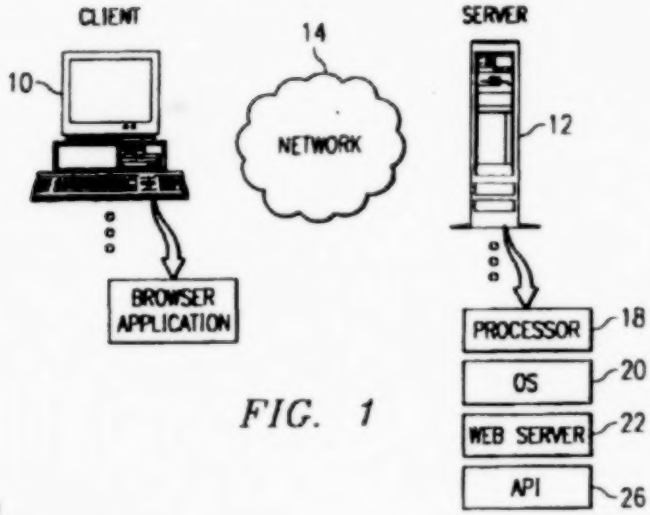

FIG. 1

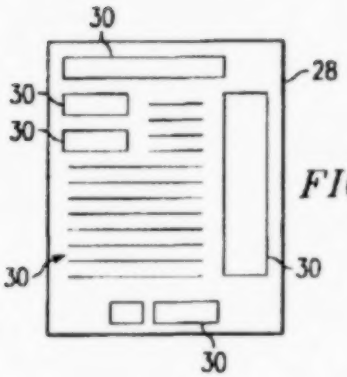

FIG. 2

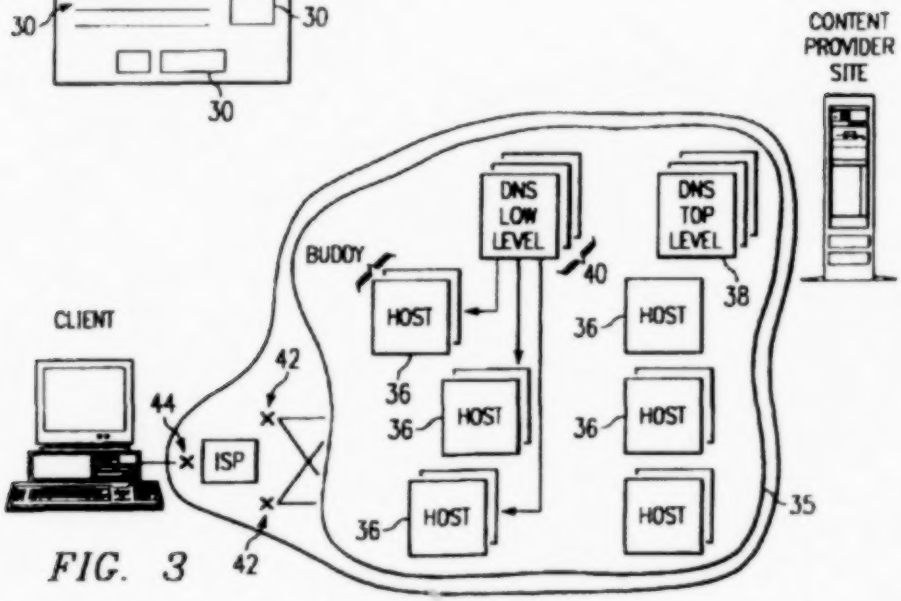

FIG. 3

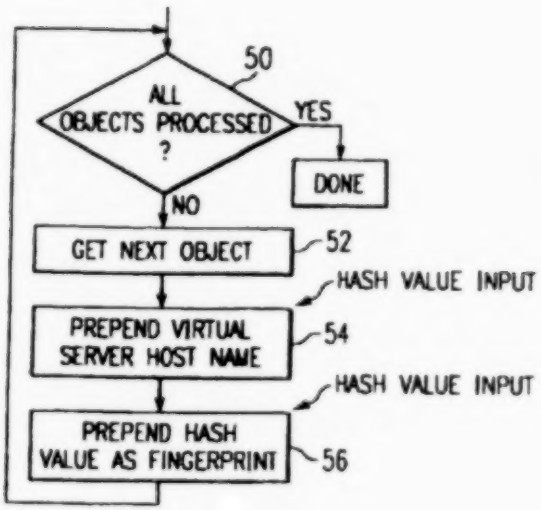
50
ALL OBJECTS PROCESSED ?
YES
DONE
NO
GET NEXT OBJECT
52
HASH VALUE INPUT
PREPEND VIRTUAL SERVER HOST NAME
54
HASH VALUE INPUT
PREPEND HASH VALUE AS FINGERPRINT
56

FIG. 4

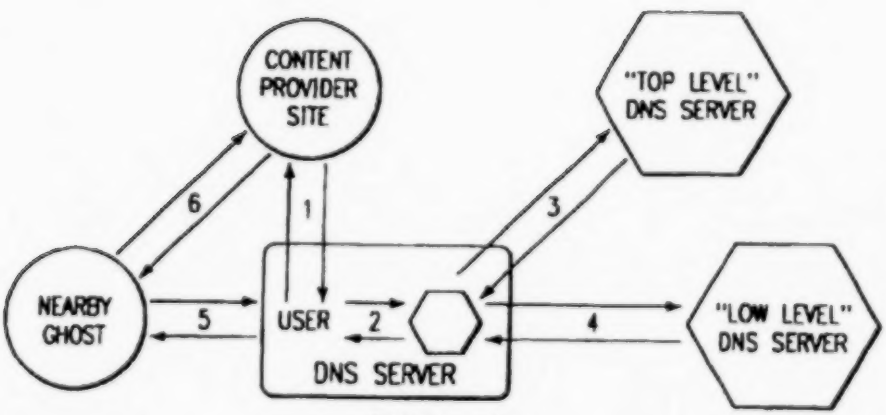
CONTENT PROVIDER SITE
"TOP LEVEL" DNS SERVER
6
1
3
NEARBY GHOST
5
USER
2
DNS SERVER
4
"LOW LEVEL" DNS SERVER

FIG. 5

GLOBAL HOSTING SYSTEM

This application is based on Provisional Application No. 60/092,710, filed Jul. 14, 1998. This application includes subject matter protected by copyright.

BACKGROUND OF THE INVENTION

1. Technical Field

This invention relates generally to information retrieval in a computer network. More particularly, the invention relates to a novel method of hosting and distributing content on the Internet that addresses the problems of Internet Service Providers (ISPs) and Internet Content Providers.

2. Description of the Related Art

The World Wide Web is the Internet's multimedia information retrieval system. In the Web environment, client machines effect transactions to Web servers using the Hypertext Transfer Protocol (HTTP), which is a known application protocol providing users access to files (e.g., text, graphics, images, sound, video, etc.) using a standard page description language known as Hypertext Markup Language (HTML). HTML provides basic document formatting and allows the developer to specify "links" to other servers and files. In the Internet paradigm, a network path to a server is identified by a so-called Uniform Resource Locator (URL) having a special syntax for defining a network connection. Use of an HTML-compatible browser (e.g., Netscape Navigator or Microsoft Internet Explorer) at a client machine involves specification of a link via the URL. In response, the client makes a request to the server identified in the link and, in return, receives a document or other object formatted according to HTML. A collection of documents supported on a Web server is sometimes referred to as a Web site.

It is well known in the prior art for a Web site to mirror its content at another server. Indeed, at present, the only method for a Content Provider to place its content closer to its readers is to build copies of its Web site on machines that are located at Web hosting farms in different locations domestically and internationally. These copies of Web sites are known as mirror sites. Unfortunately, mirror sites place unnecessary economic and operational burdens on Content Providers, and they do not offer economies of scale. Economically, the overall cost to a Content Provider with one primary site and one mirror site is more than twice the cost of a single primary site. This additional cost is the result of two factors: (1) the Content Provider must contract with a separate hosting facility for each mirror site, and (2) the Content Provider must incur additional overhead expenses associated with keeping the mirror sites synchronized.

In an effort to address problems associated with mirroring, companies such as Cisco, Resonate, Bright Tiger, F5 Labs and Alteon, are developing software and hardware that will help keep mirror sites synchronized and load balanced. Although these mechanisms are helpful to the Content Provider, they fail to address the underlying problem of scalability. Even if a Content Provider is willing to incur the costs associated with mirroring, the technology itself will not scale beyond a few (i.e., less than 10) Web sites.

In addition to these economic and scalability issues, mirroring also entails operational difficulties. A Content Provider that uses a mirror site must not only lease and manage physical space in distant locations, but it must also buy and maintain the software or hardware that synchronizes and load balances the sites. Current solutions require Content Providers to supply personnel, technology and other items necessary to maintain multiple Web sites. In summary, mirroring requires Content Providers to waste economic and other resources on functions that are not relevant to their core business of creating content.

Moreover, Content Providers also desire to retain control of their content. Today, some ISPs are installing caching hardware that interrupts the link between the Content Provider and the end-user. The effect of such caching can produce devastating results to the Content Provider, including (1) preventing the Content Provider from obtaining accurate hit counts on its Web pages (thereby decreasing revenue from advertisers), (2) preventing the Content Provider from tailoring content and advertising to specific audiences (which severely limits the effectiveness of the Content Provider's Web page), and (3) providing outdated information to its customers (which can lead to a frustrated and angry end user).

There remains a significant need in the art to provide a decentralized hosting solution that enables users to obtain Internet content on a more efficient basis (i.e., without burdening network resources unnecessarily) and that likewise enables the Content Provider to maintain control over its content.

The present invention solves these and other problems associated with the prior art.

BRIEF SUMMARY OF THE INVENTION

It is a general object of the present invention to provide a computer network comprising a large number of widely deployed Internet servers that form an organic, massively fault-tolerant infrastructure designed to serve Web content efficiently, effectively, and reliably to end users.

Another more general object of the present invention is to provide a fundamentally new and better method to distribute Web-based content. The inventive architecture provides a method for intelligently routing and replicating content over a large network of distributed servers, preferably with no centralized control.

Another object of the present invention is to provide a network architecture that moves content close to the user. The inventive architecture allows Web sites to develop large audiences without worrying about building a massive infrastructure to handle the associated traffic.

Still another object of the present invention is to provide a fault-tolerant network for distributing Web content. The network architecture is used to speed-up the delivery of richer Web pages, and it allows Content Providers with large audiences to serve them reliably and economically, preferably from servers located close to end users.

A further feature of the present invention is the ability to distribute and manage content over a large network without disrupting the Content Provider's direct relationship with the end user.

Yet another feature of the present invention is to provide a distributed scalable infrastructure for the Internet that shifts the burden of Web content distribution from the Content Provider to a network of preferably hundreds of hosting servers deployed, for example, on a global basis.

In general, the present invention is a network architecture that supports hosting on a truly global scale. The inventive framework allows a Content Provider to replicate its most popular content at an unlimited number of points throughout the world. As an additional feature, the actual content that is replicated at any one geographic location is specifically tailored to viewers in that location. Moreover, content is automatically sent to the location where it is requested, without any effort or overhead on the part of a Content Provider.

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It is thus a more general object of this invention to provide a global hosting framework to enable Content Providers to retain control of their content.

The hosting framework of the present invention comprises a set of servers operating in a distributed manner. The actual content to be served is preferably supported on a set of hosting servers (sometimes referred to as ghost servers). This content comprises HTML page objects that, conventionally, are served from a Content Provider site. In accordance with the invention, however, a base HTML document portion of a Web page is served from the Content Provider's site while one or more embedded objects for the page are served from the hosting servers, preferably, those hosting servers nearest the client machine. By serving the base HTML document from the Content Provider's site, the Content Provider maintains control over the content.

The determination of which hosting server to use to serve a given embedded object is effected by other resources in the hosting framework. In particular, the framework includes a second set of servers (or server resources) that are configured to provide top level Domain Name Service (DNS). In addition, the framework also includes a third set of servers (or server resources) that are configured to provide low level DNS functionality. When a client machine issues an HTTP request to the Web site for a given Web page, the base HMTL document is served from the Web site as previously noted. Embedded objects for the page preferably are served from particular hosting servers identified by the top- and low-level DNS servers. To locate the appropriate hosting servers to use, the top-level DNS server determines the user's location in the network to identify a given low-level DNS server to respond to the request for the embedded object. The top-level DNS server then redirects the request to the identified low-level DNS server that, in turn, resolves the request into an IP address for the given hosting server that serves the object back to the client.

More generally, it is possible (and, in some cases, desirable) to have a hierarchy of DNS servers that consisting of several levels. The lower one moves in the hierarchy, the closer one gets to the best region.

A further aspect of the invention is a means by which content can be distributed and replicated through a collection of servers so that the use of memory is optimized subject to the constraints that there are a sufficient number of copies of any object to satisfy the demand, the copies of objects are spread so that no server becomes overloaded, copies tend to be located on the same servers as time moves forward, and copies are located in regions close to the clients that are requesting them. Thus, servers operating within the framework do not keep copies of all of the content database. Rather, given servers keep copies of a minimal amount of data so that the entire system provides the required level of service. This aspect of the invention allows the hosting scheme to be far more efficient than schemes that cache everything everywhere, or that cache objects only in prespecified locations.

The global hosting framework is fault tolerant at each level of operation. In particular, the top level DNS server returns a list of low-level DNS servers that may be used by the client to service the request for the embedded object. Likewise, each hosting server preferably includes a buddy server that is used to assume the hosting responsibilities of its associated hosting server in the event of a failure condition.

According to the present invention, load balancing across the set of hosting servers is achieved in part through a novel technique for distributing the embedded object requests. In particular, each embedded object URL is preferably modified by prepending a virtual server hostname into the URL. More generally, the virtual server hostname is inserted into the URL. Preferably, the virtual server hostname includes a value (sometimes referred to as a serial number) generated by applying a given hash function to the URL or by encoding given information about the object into the value. This function serves to randomly distribute the embedded objects over a given set of virtual server hostnames. In addition, a given fingerprint value for the embedded object is generated by applying a given hash function to the embedded object itself. This given value serves as a fingerprint that identifies whether the embedded object has been modified. Preferably, the functions used to generate the values (i.e., for the virtual server hostname and the fingerprint) are applied to a given Web page in an off-line process. Thus, when an HTTP request for the page is received, the base HTML document is served by the Web site and some portion of the page's embedded objects are served from the hosting servers near (although not necessarily the closest) to the client machine that initiated the request.

The foregoing has outlined some of the more pertinent objects and features of the present invention. These objects should be construed to be merely illustrative of some of the more prominent features and applications of the invention. Many other beneficial results can be attained by applying the disclosed invention in a different manner or modifying the invention as will be described. Accordingly, other objects and a fuller understanding of the invention may be had by referring to the following Detailed Description of the Preferred Embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference should be made to the following Detailed Description taken in connection with the accompanying drawings in which:

FIG. **1** is a representative system in which the present invention is implemented;

FIG. **2** is a simplified representation of a markup language document illustrating the base document and a set of embedded objects;

FIG. **3** is a high level diagram of a global hosting system according to the present invention;

FIG. **4** is a simplified flowchart illustrating a method of processing a Web page to modified embedded object URLs that is used in the present invention;

FIG. **5** is a simplified state diagram illustrating how the present invention responds to a HTTP request for a Web page.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A known Internet client-server system is implemented as illustrated in FIG. **1**. A client machine **10** is connected to a Web server **12** via a network **14**. For illustrative purposes, network **14** is the Internet, an intranet, an extranet or any other known network. Web server **12** is one of a plurality of servers which are accessible by clients, one of which is illustrated by machine **10**. A representative client machine includes a browser **16**, which is a known software tool used to access the servers of the network. The Web server supports files (collectively referred to as a "Web" site) in the form of hypertext documents and objects. In the Internet

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paradigm, a network path to a server is identified by a so-called Uniform Resource Locator (URL).

A representative Web server **12** is a computer comprising a processor **18**, an operating system **20**, and a Web server program **22**, such as Netscape Enterprise Server. The server **12** also includes a display supporting a graphical user interface (GUI) for management and administration, and an Application Programming Interface (API) that provides extensions to enable application developers to extend and/or customize the core functionality thereof through software programs including Common Gateway Interface (CGI) programs, plug-ins, servlets, active server pages, server side include (SSI) functions or the like.

A representative Web client is a personal computer that is x86-, PowerPC®-or RISC-based, that includes an operating system such as IBM® OS/2® or Microsoft Windows '95, and that includes a Web browser, such as Netscape Navigator 4.0 (or higher), having a Java Virtual Machine (JVM) and support for application plug-ins or helper applications. A client may also be a notebook computer, a handheld computing device (e.g., a PDA), an Internet appliance, or any other such device connectable to the computer network.

As seen in FIG. **2**, a typical Web page comprises a markup language (e.g. HTML) master or base document **28**, and many embedded objects (e.g., images, audio, video, or the like) **30**. Thus, in a typical page, twenty or more embedded images or objects are quite common. Each of these images is an independent object in the Web, retrieved (or validated for change) separately. The common behavior of a Web client, therefore, is to fetch the base HTML document, and then immediately fetch the embedded objects, which are typically (but not always) located on the same server. According to the present invention, preferably the markup language base document **28** is served from the Web server (i.e., the Content Provider site) whereas a given number (or perhaps all) of the embedded objects are served from other servers. As will be seen, preferably a given embedded object is served from a server (other than the Web server itself) that is close to the client machine, that is not overloaded, and that is most likely to already have a current version of the required file.

Referring now to FIG. **3**, this operation is achieved by the hosting system of the present invention. As will be seen, the hosting system **35** comprises a set of widely-deployed servers (or server resources) that form a large, fault-tolerant infrastructure designed to serve Web content efficiently, effectively, and reliably to end users. The servers may be deployed globally, or across any desired geographic regions. As will be seen, the hosting system provides a distributed architecture for intelligently routing and replicating such content. To this end, the global hosting system **35** comprises three (3) basic types of servers (or server resources): hosting servers (sometimes called ghosts) **36**, top-level DNS servers **38**, and low-level DNS servers **40**. Although not illustrated, there may be additional levels in the DNS hierarchy. Alternatively, there may be a single DNS level that combines the functionality of the top level and low-level servers. In this illustrative embodiment, the inventive framework **35** is deployed by an Internet Service Provider (ISP), although this is not a limitation of the present invention. The ISP or ISPs that deploy the inventive global hosting framework **35** preferably have a large number of machines that run both the ghost server component **36** and the low-level DNS component **40** on their networks. These machines are distributed throughout the network; preferably, they are concentrated around network exchange points **42** and network access points **44**, although this is not a requirement. In addition, the ISP preferably has a small number of machines running the top-level DNS **38** that may also be distributed throughout the network.

Although not meant to be limiting, preferably a given server used in the framework **35** includes a processor, an operating system (e.g., Linux, UNIX, Windows NT, or the like), a Web server application, and a set of application routines used by the invention. These routines are conveniently implemented in software as a set of instructions executed by the processor to perform various process or method steps as will be described in more detail below. The servers are preferably located at the edges of the network (e.g., in points of presence, or POPs).

Several factors may determine where the hosting servers are placed in the network. Thus, for example, the server locations are preferably determined by a demand driven network map that allows the provider (e.g., the ISP) to monitor traffic requests. By studying traffic patterns, the ISP may optimize the server locations for the given traffic profiles.

According to the present invention, a given Web page (comprising a base HTML document and a set of embedded objects) is served in a distributed manner. Thus, preferably, the base HTML document is served from the Content Provider that normally hosts the page. The embedded objects, or some subset thereof, are preferentially served from the hosting servers **36** and, specifically, given hosting servers **36** that are near the client machine that in the first instance initiated the request for the Web page. In addition, preferably loads across the hosting servers are balanced to ensure that a given embedded object may be efficiently served from a given hosting server near the client when such client requires that object to complete the page.

To serve the page contents in this manner, the URL associated with an embedded object is modified. As is well-known, each embedded object that may be served in a page has its own URL. Typically, the URL has a hostname identifying the Content Provider's site from where the object is conventionally served, i.e., without reference to the present invention. According to the invention, the embedded object URL is first modified, preferably in an off-line process, to condition the URL to be served by the global hosting servers. A flowchart illustrating the preferred method for modifying the object URL is illustrated in FIG. **4**.

The routine begins at step **50** by determining whether all of the embedded objects in a given page have been processed. If so, the routine ends. If not, however, the routine gets the next embedded object at step **52**. At step **54**, a virtual server hostname is prepended into the URL for the given embedded object. The virtual server hostname includes a value (e.g., a number) that is generated, for example, by applying a given hash function to the URL. As is well-known, a hash function takes arbitrary length bit strings as inputs and produces fixed length bit strings (hash values) as outputs. Such functions satisfy two conditions: (1) it is infeasible to find two different inputs that produce the same hash value, and (2) given an input and its hash value, it is infeasible to find a different input with the same hash value. In step **54**, the URL for the embedded object is hashed into a value xx,xxx that is then included in the virtual server hostname. This step randomly distributes the object to a given virtual server hostname.

The present invention is not limited to generating the virtual server hostname by applying a hash function as described above. As an alternative and preferred

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embodiment, a virtual server hostname is generated as follows. Consider the representative hostname a1234.g.akamaitech.net. The 1234 value, sometimes referred to as a serial number, preferably includes information about the object such as its size (big or small), its anticipated popularity, the date on which the object was created, the identity of the Web site, the type of object (e.g., movie or static picture), and perhaps some random bits generated by a given random function. Of course, it is not required that any given serial number encode all of such information or even a significant number of such components. Indeed, in the simplest case, the serial number may be a simple integer. In any event, the information is encoded into a serial number in any convenient manner. Thus, for example, a first bit is used to denote size, a second bit is used to denote popularity, a set of additional bits is used to denote the date, and so forth. As noted above in the hashing example, the serial number is also used for load balancing and for directing certain types of traffic to certain types of servers. Typically, most URLs on the same page have the same serial number to minimize the number of distinguished name (DN) accesses needed per page. This requirement is less important for larger objects.

Thus, according to the present invention, a virtual server hostname is prepended into the URL for a given embedded object, and this hostname includes a value (or serial number) that is generated by applying a given function to the URL or object. That function may be a hash function, an encoding function, or the like.

Turning now back to the flowchart, the routine then continues at step **56** to include a given value in the object's URL. Preferably, the given value is generated by applying a given hash function to the embedded object. This step creates a unique fingerprint of the object that is useful for determining whether the object has been modified. Thereafter, the routine returns to step **50** and cycles.

With the above as background, the inventive global hosting framework is now described in the context of a specific example. In particular, it is assumed that a user of a client machine in Boston requests a Content Provider Web page normally hosted in Atlanta. For illustrative purposes, it is assumed that the Content Provider is using the global hosting architecture within a network, which may be global, international, national, regional, local or private. FIG. **5** shows the various components of the system and how the request from the client is processed. This operation is not to be taken by way of limitation, as will be explained.

Step 1: The browser sends a request to the Provider's Web site (Item 1). The Content Provider site in Atlanta receives the request in the same way that it does as if the global hosting framework were not being implemented. The difference is in what is returned by the Provider site. Instead of returning the usual page, according to the invention, the Web site returns a page with embedded object URLs that are modified according to the method illustrated in the flowchart of FIG. **4**. As previously described, the URLs preferably are changed as follows:

Assume that there are 100,000 virtual ghost servers, even though there may only be a relatively small number (e.g., 100) physically present on the network. These virtual ghost servers or virtual ghosts are identified by the hostname: ghostxxxxx.ghosting.com, where xxxxx is replaced by a number between 0 and 99,999. After the Content Provider Web site is updated with new information, a script executing on the Content Provider site is run that rewrites the embedded URLs. Preferably, the embedded URLs names are hashed into numbers between 0 and 99,999, although this range is not a limitation of the present invention. An embedded URL is then switched to reference the virtual ghost with that number. For example, the following is an embedded URL from the Provider's site:

<IMG SRC=http://www.provider.com/TECH/images/space.story.gif>

If the serial number for the object referred to by this URL is the number 1467, then preferably the URL is rewritten to read:

<IMG SRC=http://ghost1467.ghosting.akamai.com/www.provider.com/TECH/images/space.story.gif>.

The use of serial numbers in this manner distributes the embedded URLs roughly evenly over the 100,000 virtual ghost server names. Note that the Provider site can still personalize the page by rearranging the various objects on the screen according to individual preferences. Moreover, the Provider can also insert advertisements dynamically and count how many people view each ad.

According to the preferred embodiment, an additional modification to the embedded URLs is made to ensure that the global hosting system does not serve stale information. As previously described, preferably a hash of the data contained in the embedded URL is also inserted into the embedded URL itself. That is, each embedded URL may contain a fingerprint of the data to which it points. When the underlying information changes, so does the fingerprint, and this prevents users from referencing old data.

The second hash takes as input a stream of bits and outputs what is sometimes referred to as a fingerprint of the stream. The important property of the fingerprint is that two different streams almost surely produce two different fingerprints. Examples of such hashes are the MD2 and MD5 hash functions, however, other more transparent methods such as a simple checksum may be used. For concreteness, assume that the output of the hash is a 128 bit signature. This signature can be interpreted as a number and then inserted into the embedded URL. For example, if the hash of the data in the picture space.story.gif from the Provider web site is the number 28765, then the modified embedded URL would actually look as follows:

<IMGSRC=http://ghost1467.ghosting.akamai.com/28765/www.provider.com /TECH/images/space.story.gif'>.

Whenever a page is changed, preferably the hash for each embedded URL is recomputed and the URL is rewritten if necessary. If any of the URL's data changes, for example, a new and different picture is inserted with the name space.story.gif, then the hash of the data is different and therefore the URL itself will be different. This scheme prevents the system from serving data that is stale as a result of updates to the original page.

For example, assume that the picture space.story.gif is replaced with a more up-to-date version on the Content Provider server. Because the data of the pictures changes, the hash of the URL changes as well. Thus, the new embedded URL looks the same except that a new number is inserted for the fingerprint. Any user that requests the page after the update receives a page that points to the new picture. The old picture is never referenced and cannot be mistakenly returned in place of the more up-to-date information.

In summary, preferably there are two hashing operations that are done to modify the pages of the Content Provider. First, hashing can be a component of the process by which a serial number is selected to transform the domain name into a virtual ghost name. As will be seen, this first transformation serves to redirect clients to the global hosting

system to retrieve the embedded URLs. Next, a hash of the data pointed to by the embedded URLs is computed and inserted into the URL. This second transformation serves to protect against serving stale and out-of-date content from the ghost servers. Preferably, these two transformations are performed off-line and therefore do not pose potential performance bottlenecks.

Generalizing, the preferred URL schema is as follows. The illustrative domain www.domainname.com/frontpage.jpg is transformed into:

xxxx.yy.zzzz.net/aaaa/www.domainname.com/frontpage.jpg,

where

xxxx=serial number field

yy=lower level DNS field

zzzz=top level DNS field

aaaa=other information (e.g., fingerprint) field.

If additional levels of the DNS hierarchy are used, then there may be additional lower level DNS fields, e.g., xxxx.y_1.y_2.y_3 zzz.net/aaaa/. . . .

Step 2: After receiving the initial page from the Content Provider site, the browser needs to load the embedded URLs to display the page. The first step in doing this is to contact the DNS server on the user's machine (or at the user's ISP) to resolve the altered hostname, in this case: ghost1467.ghosting.akamai.com. As will be seen, the global hosting architecture of the present invention manipulates the DNS system so that the name is resolved to one of the ghosts that is near the client and is likely to have the page already. To appreciate how this is done, the following describes the progress of the DNS query that was initiated by the client.

Step 3: As previously described, preferably there are two types of DNS servers in the inventive system: top-level and low-level. The top level DNS servers **38** for ghosting.com have a special function that is different from regular DNS servers like those of the .com domain. The top level DNS servers **38** include appropriate control routines that are used to determine where in the network a user is located, and then to direct the user to a akamai.com (i.e., a low level DNS) server **40** that is close-by. Like the .com domain, akamai.com preferably has a number of top-level DNS servers **38** spread throughout the network for fault tolerance. Thus, a given top level DNS server **38** directs the user to a region in the Internet (having a collection of hosting servers **36** that may be used to satisfy the request for a given embedded object) whereas the low level DNS server **40** (within the identified region) identifies a particular hosting server within that collection from which the object is actually served.

More generally, as noted above, the DNS process can contain several levels of processing, each of which serves to better direct the client to a ghost server. The ghost server name can also have more fields. For example, "a123.g.g.akamaitech.net" may be used instead of "a123.ghost.akamai.com." If only one DNS level is used, a representative URL could be "a123.akamai.com."

Although other techniques may be used, the user's location in the network preferably is deduced by looking at the IP address of the client machine making the request. In the present example, the DNS server is running on the machine of the user, although this is not a requirement. If the user is using an ISP DNS server, for example, the routines make the assumption that the user is located near (in the Internet sense) this server. Alternatively, the user's location or IP address could be directly encoded into the request sent to the top level DNS. To determine the physical location of an IP address in the network, preferably, the top level DNS server builds a network map that is then used to identify the relevant location.

Thus, for example, when a request comes in to a top level DNS for a resolution for a1234.g.akamaitech.net, the top level DNS looks at the return address of the requester and then formulates the response based on that address according to a network map. In this example, the a1234 is a serial number, the g is a field that refers to the lower level DNS, and akamaitech refers to the top level DNS. The network map preferably contains a list of all Internet Protocol (IP) blocks and, for each IP block, the map determines where to direct the request. The map preferably is updated continually based on network conditions and traffic.

After determining where in the network the request originated, the top level DNS server redirects the DNS request to a low level DNS server close to the user in the network. The ability to redirect requests is a standard feature in the DNS system. In addition, this redirection can be done in such a way that if the local low level DNS server is down, there is a backup server that is contacted.

Preferably, the TTL (time to live) stamp on these top level DNS redirections for the ghosting.com domain is set to be long. This allows DNS caching at the user's DNS servers and/or the ISP's DNS servers to prevent the top level DNS servers from being overloaded. If the TTL for ghosting.akamai.com in the DNS server at the user's machine or ISP has expired, then a top level server is contacted, and a new redirection to a local low level ghosting.akamai.com DNS server is returned with a new TTL stamp. It should be noted the system does not cause a substantially larger number of top level DNS lookups than what is done in the current centralized hosting solutions. This is because the TTL of the top level redirections are set to be high and, thus, the vast majority of users are directed by their local DNS straight to a nearby low level ghosting.akamai.com DNS server.

Moreover, fault tolerance for the top level DNS servers is provided automatically by DNS similarly to what is done for the popular .com domain. Fault tolerance for the low level DNS servers preferably is provided by returning a list of possible low level DNS servers instead of just a single server. If one of the low level DNS servers is down, the user will still be able to contact one on the list that is up and running.

Fault tolerance can also be handled via an "overflow control" mechanism wherein the client is redirected to a low-level DNS in a region that is known to have sufficient capacity to serve the object. This alternate approach is very useful in scenarios where there is a large amount of demand from a specific region or when there is reduced capacity in a region. In general, the clients are directed to regions in a way that minimizes the overall latency experienced by clients subject to the constraint that no region becomes overloaded. Minimizing overall latency subject to the regional capacity constraints preferably is achieved using a min-cost multicommodity flow algorithm.

Step 4: At this point, the user has the address of a close-by ghosting.com DNS server **38**. The user's local DNS server contacts the close-by low level DNS server **40** and requests a translation for the name ghost1467.ghosting.akamai.com. The local DNS server is responsible for returning the IP address of one of the ghost servers **36** on the network that is close to the user, not overloaded, and most likely to already have the required data.

The basic mechanism for mapping the virtual ghost names to real ghosts is hashing. One preferred technique is so-called consistent hashing, as described in U.S. Ser. No. 09/042,228, filed Mar. 13, 1998, and in U.S. Ser. No. 09/088,825, filed Jun. 2, 1998, each titled Method And Apparatus For Distributing Requests Among A Plurality Of

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Resources, and owned by the assachusetts Institute of Technology, which applications are ncorporated herein by reference. Consistent hash functions alc the system robust under machine failures and crashes. It also allows the system to grow gracefully, without changing where most items are located and without perfect information about the system.

According to the invention, the virtual ghost names may be hashed into real ghost addresses using a table lookup, where the table is continually updated based on network conditions and traffic in such a way to insure load balancing and fault tolerance. Preferably, a table of resolutions is created for each serial number. For example, serial number 1 resolves to ghost 2 and 5, serial number 2 resolves to ghost 3, serial number 3 resolves to ghosts 2,3,4, and so forth. The goal is to define the resolutions so that no ghost exceeds its capacity and that the total number of all ghosts in all resolutions is minimized. This is done to assure that the system can take maximal advantage of the available memory at each region. This is a major advantage over existing load balancing schemes that tend to cache everything everywhere or that only cache certain objects in certain locations no matter what the loads are. In general, it is desirable to make assignments so that resolutions tend to stay consistent over time provided that the loads do not change too much in a short period of time. This mechanism preferably also takes into account how close the ghost is to the user, and how heavily loaded the ghost is at the moment.

Note that the same virtual ghost preferably is translated to different real ghost addresses according to where the user is located in the network. For example, assume that ghost server 18.98.0.17 is located in the United States and that ghost server 132.68.1.28 is located in Israel. A DNS request for ghost1487.ghosting.akamai.com originating in Boston will resolve to 18.98.0.17, while a request originating in Tel-Aviv will resolve to 132.68.1.28.

The low-level DNS servers monitor the various ghost servers to take into account their loads while translating virtual ghost names into real addresses. This is handled by a software routine that runs on the ghosts and on the low level DNS servers. In one embodiment, the load information is circulated among the servers in a region so that they can compute resolutions for each serial number. One algorithm for computing resolutions works as follows. The server first computes the projected load (based on number of user requests) for each serial number. The serial numbers are then processed in increasing order of load. For each serial number, a random priority list of desired servers is assigned using a consistent hashing method. Each serial number is then resolved to the smallest initial segment of servers from the priority list so that no server becomes overloaded. For example, if the priority list for a serial number is 2,5,3,1,6, then an attempt is made first to try to map the load for the serial number to ghost 2. If this overloads ghost 2, then the load is assigned to both ghosts 2 and 5. If this produced too much load on either of those servers, then the load is assigned to ghosts 2,3, and 5, and so forth. The projected load on a server can be computed by looking at all resolutions that contain that server and by adding the amount of load that is likely to be sent to that server from that serial number. This method of producing resolutions is most effective when used in an iterative fashion, wherein the assignments starts in a default state, where every serial number is mapped to every ghost. By refining the resolution table according to the previous procedure, the load is balanced using the minimum amount of replication (thereby maximally conserving the available memory in a region).

The TTL for these low level DNS translations is set to be short to allow a quick response when heavy load is detected on one of the ghosts. The TTL is a parameter that can be manipulated by the system to insure a balance between timely response to high load on ghosts and the load induced on the low level DNS servers. Note, however, that even if the TTL for the low level DNS translation is set to 1–2 minutes, only a few of the users actually have to do a low level DNS lookup. Most users will see a DNS translation that is cached on their machine or at their ISP. Thus, most users go directly from their local DNS server to the close-by ghost that has the data they want. Those users that actually do a low level DNS lookup have a very small added latency, however this latency is small compared to the advantage of retrieving most of the data from close by.

As noted above, fault tolerance for the low level DNS servers is provided by having the top level DNS return a list of possible low level DNS servers instead of a single server address. The user's DNS system caches this list (part of the standard DNS system), and contacts one of the other servers on the list if the first one is down for some reason. The low level DNS servers make use of a standard feature of DNS to provide an extra level of fault tolerance for the ghost servers. When a name is translated, instead of returning a single name, a list of names is returned. If for some reason the primary fault tolerance method for the ghosts (known as the Buddy system, which is described below) fails, the client browser will contact one of the other ghosts on the list.

Step 5: The browser then makes a request for an object named a123.ghosting.akamai.com/.../www.provider.com/TECH/images/space.story.gif from the close-by ghost. Note that the name of the original server (www.provider.com) preferably is included as part of the URL. The software running on the ghost parses the page name into the original host name and the real page name. If a copy of the file is already stored on the ghost, then the data is returned immediately. If, however, no copy of the data on the ghost exists, a copy is retrieved from the original server or another ghost server. Note that the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser. Once a copy has been retrieved it is returned to the user, and preferably it is also stored on the ghost for answering future requests.

As an additional safeguard, it may be preferable to check that the user is indeed close to the server. This can be done by examining the IP address of the client before responding to the request for the file. This is useful in the rare case when the client's DNS server is far away from the client. In such a case, the ghost server can redirect the user to a closer server (or to another virtual address that is likely to be resolved to a server that is closer to the client). If the redirect is to a virtual server, then it must be tagged to prevent further redirections from taking place. In the preferred embodiment, redirection would only be done for large objects; thus, a check may be made before applying a redirection to be sure that the object being requested exceeds a certain overall size.

Performance for long downloads can also be improved by dynamically changing the server to which a client is connected based on changing network conditions. This is especially helpful for audio and video downloads (where the connections can be long and where quality is especially important). In such cases, the user can be directed to an alternate server in mid-stream. The control structure for redirecting the client can be similar to that described above, but it can also include software that is placed in the client's browser or media player. The software monitors the performance of the client's connection and perhaps the status of the network as well. If it is deemed that the client's connection can be improved by changing the server, then the system directs the client to a new server for the rest of the connection.

Fault tolerance for the ghosts is provided by a buddy system, where each ghost has a designated buddy ghost. If a ghost goes down, its buddy takes over its work (and IP address) so that service is not interrupted. Another feature of the system is that the buddy ghost does not have to sit idle waiting for a failure. Instead, all of the machines are always active, and when a failure happens, the load is taken over by the buddy and then balanced by the low level DNS system to the other active ghosts. An additional feature of the buddy system is that fault tolerance is provided without having to wait for long timeout periods.

As yet another safety feature of the global hosting system, a gating mechanism can be used to keep the overall traffic for certain objects within specified limits. One embodiment of the gating mechanism works as follows. When the number of requests for an object exceeds a certain specified threshold, then the server can elect to not serve the object. This can be very useful if the object is very large. Instead, the client can be served a much smaller object that asks the client to return later. Or, the client can be redirected. Another method of implementing a gate is to provide the client with a "ticket" that allows the client to receive the object at a prespecified future time. In this method, the ghost server needs to check the time on the ticket before serving the object.

The inventive global hosting scheme is a way for global ISPs or conglomerates of regional ISPs to leverage their network infrastructure to generate hosting revenue, and to save on network bandwidth. An ISP offering the inventive global hosting scheme can give content providers the ability to distribute content to their users from the closest point on the ISPs network, thus ensuring fast and reliable access. Guaranteed web site performance is critical for any web-based business, and global hosting allows for the creation of a service that satisfies this need.

Global hosting according to the present invention also allows an ISP to control how and where content traverses its network. Global hosting servers can be set up at the edges of the ISP's network (at the many network exchange and access points, for example). This enables the ISP to serve content for sites that it hosts directly into the network exchange points and access points. Expensive backbone links no longer have to carry redundant traffic from the content provider's site to the network exchange and access points. Instead, the content is served directly out of the ISP's network, freeing valuable network resources for other traffic.

Although global hosting reduces network traffic, it is also a method by which global ISPs may capture a piece of the rapidly expanding hosting market, which is currently estimated at over a billion dollars a year.

The global hosting solution also provides numerous advantages to Content Providers, and, in particular, an efficient and cost-effective solution to improve the performance of their Web sites both domestically and internationally. The inventive hosting software ensures Content Providers with fast and reliable Internet access by providing a means to distribute content to their subscribers from the closest point on an ISP's network. In addition to other benefits described in more detail below, the global hosting solution also provides the important benefit of reducing network traffic.

Once inexpensive global hosting servers are installed at the periphery of an ISP's network (i.e., at the many network exchange and access points), content is served directly into network exchange and access points. As a result of this efficient distribution of content directly from an ISP's network, the present invention substantially improves Web site performance. In contrast to current content distribution systems, the inventive global hosting solution does not require expensive backbone links to carry redundant traffic from the Content Provider's Web site to the network exchange and access points.

A summary of the specific advantages afforded by the inventive global hosting scheme are set forth below.

1. Decreased Operational Expenses for Content Providers:

Most competing solutions require Content Providers to purchase servers at each Web site that hosts their content. As a result, Content Providers often must negotiate separate contracts with different ISPs around the world. In addition, Content Providers are generally responsible for replicating the content and maintaining servers in these remote locations.

With the present invention, ISPs are primarily responsible for the majority of the aspects of the global hosting. Content Providers preferably maintain only their single source server. Content on this server is automatically replicated by software to the locations where it is being accessed. No intervention or planning is needed by the Provider (or, for that matter, the ISP). Content Providers are offered instant access to all of the servers on the global network; there is no need to choose where content should be replicated or to purchase additional servers in remote locations.

2. Intelligent and Efficient Data Replication:

Most competing solutions require Content Providers to replicate their content on servers at a commercial hosting site or to mirror their content on geographically distant servers. Neither approach is particularly efficient. In the former situation, content is still located at a single location on the Internet (and thus it is far away from most users). In the latter case, the entire content of a Web site is copied to remote servers, even though only a small portion of the content may actually need to be located remotely. Even with inexpensive memory, the excessive cost associated with such mirroring makes it uneconomical to mirror to more than a few sites, which means that most users will still be far away from a mirror site. Mirroring also has the added disadvantage that Content Providers must insure that all sites remain consistent and current, which is a nontrivial task for even a few sites.

With the present invention, content is automatically replicated to the global server network in an intelligent and efficient fashion. Content is replicated in only those locations where it is needed. Moreover, when the content changes, new copies preferably are replicated automatically throughout the network.

3. Automatic Content Management:

Many existing solutions require active management of content distribution, content replication and load balancing between different servers. In particular, decisions about where content will be hosted must be made manually, and the process of replicating data is handled in a centralized push fashion. On the contrary, the invention features passive management. Replication is done in a demand-based pull fashion so that content preferably is only sent to where it is truly needed. Moreover, the process preferably is fully automated; the ISP does not have to worry about how and where content is replicated and/or the content provider.

4. Unlimited, Cost Effective Scalability:

Competing solutions are not scalable to more than a small number of sites. For example, solutions based on mirroring are typically used in connection with at most three or four sites. The barriers to scaling include the expense of replicating the entire site, the cost of replicating computing

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resources at all nodes, and the complexity of supporting the widely varying software packages that Content Providers use on their servers.

The unique system architecture of the present invention is scaleable to hundreds, thousands or even millions of nodes. Servers in the hosting network can malfunction or crash and the system's overall function is not affected. The global hosting framework makes efficient use of resources; servers and client software do not need to be replicated at every node because only the hosting server runs at each node. In addition, the global hosting server is designed to run on standard simple hardware that is not required to be highly fault tolerant.

5. Protection against Flash Crowds:

Competing solutions do not provide the Content Provider with protection from unexpected flash crowds. Although mirroring and related load-balancing solutions do allow a Content Provider to distribute load across a collection of servers, the aggregate capacity of the servers must be sufficient to handle peak demands. This means that the Provider must purchase and maintain a level of resources commensurate with the anticipated peak load instead of the true average load. Given the highly variable and unpredictable nature of the Internet, such solutions are expensive and highly wasteful of resources.

The inventive hosting architecture allows ISPs to utilize a single network of hosting servers to offer Content Providers flash crowd insurance. That is, insurance that the network will automatically adapt to and support unexpected higher load on the Provider's site. Because the ISP is aggregating many Providers together on the same global network, resources are more efficiently used.

6. Substantial Bandwidth Savings:

Competing solutions do not afford substantial bandwidth savings to ISPs or Content Providers. Through the use of mirroring, it is possible to save bandwidth over certain links (i.e., between New York and Los Angeles). Without global hosting, however, most requests for content will still need to transit the Internet, thus incurring bandwidth costs. The inventive hosting framework saves substantial backbone bandwidth for ISPs that have their own backbones. Because content is distributed throughout the network and can be placed next to network exchange points, both ISPs and Content Providers experience substantial savings because backbone charges are not incurred for most content requests.

7. Instant Access to the Global Network:

Competing solutions require the Content Provider to choose manually a small collection of sites at which content will be hosted and/or replicated. Even if the ISP has numerous hosting sites in widely varied locations, only those sites specifically chosen (and paid for) will be used to host content for that Content Provider.

On the contrary, the global hosting solution of the present invention allows ISPs to offer their clients instant access to the global network of servers. To provide instant access to the global network, content is preferably constantly and dynamically moved around the network. For example, if a Content Provider adds content that will be of interest to customers located in Asia, the Content Provider will be assured that its content will be automatically moved to servers that are also located in Asia. In addition, the global hosting framework allows the content to be moved very close to end users (even as close as the user's building in the case of the Enterprise market).

8. Designed for Global ISPs and Conglomerates:

Most competing solutions are designed to be purchased and managed by Content Providers, many of whom are already consistently challenged and consumed by the administrative and operational tasks of managing a single server. The inventive hosting scheme may be deployed by a global ISP, and it provides a new service that can be offered to Content Providers. A feature of the service is that it minimizes the operational and managerial requirements of a Content Provider, thus allowing the Content Provider to focus on its core business of creating unique content.

9. Effective Control of Proprietary Database s a nd Confidential Information:

Many competing solutions require Content Providers to replicate their proprietary databases to multiple geographically distant sites. As a result, the Content Provider effectively loses control over its proprietary and usually confidential databases. To remedy these problems, the global hosting solution of the present invention ensures that Content Providers retain complete control over their databases. As described above, initial requests for content are directed to the Content Provider's central Web site, which then implements effective a nd controlled database access. Preferably, high-bandwidth, static parts for page requests are retrieved from the global hosting network.

10. Compatibility with Content Provider Software:

Many competing solutions require Content Provider s to utilize a specific set of servers and databases. These particular, non-uniform requirements constrain the Content Provider's ability to most effectively use new technologies, and may require expensive changes to a Content Provider's existing infrastructure. By eliminating these problems, the inventive global hosting architecture effectively interfaces between the Content Provider and the ISP, and it does not make any assumptions about the systems or servers used by the Content Provider. Furthermore, the Content Provider's systems can be upgraded, changed or completely replaced without modifying or interrupting the inventive architecture.

11. No Interference with Dynamic Content, Personalized Advertising or E-Commerce, and No stale content:

Many competing solutions (such as naive caching of all content) can interfere with dynamic content, personalized advertising and E-commerce and can serve the user with stale content. While other software companies have attempted to partially eliminate these issues (such as keeping counts on hits for all cached copies), each of these solutions causes a partial or complete loss of functionality (such as the ability to personalize advertising). On the contrary, the global hosting solution does not interfere with generation of dynamic content, personalized advertising or E-commerce, because each of these tasks preferably is handled by the central server of the Content Provider.

12. Designed for the Global Network:

The global hosting architecture is highly scalcable and thus may be deployed on a world-wide network basis.

The above-described functionality of each of the components of the global hosting architecture preferably is implemented in software executable in a processor, namely, as a set of instructions or program code in a code module resident in the random access memory of the computer. Until required by the computer, the set of instructions may be stored in another computer memory, for example, in a hard disk drive, or in a removable memory such as an optical disk (for eventual use in a CD ROM) or floppy disk (for eventual use in a floppy disk drive), or downloaded via the Internet or other computer network.

In addition, although the various methods described are conveniently implemented in a general purpose computer selectively activated or reconfigured by software, one of ordinary skill in the art would also recognize that such

methods may be carried out in hardware, in firmware, or in more specialized apparatus constructed to perform the required method steps.

Further, as used herein, a Web "client" should be broadly construed to mean any computer or component thereof directly or indirectly connected or connectable in any known or later-developed manner to a computer network, such as the Internet. The term Web "server" should also be broadly construed to mean a computer, computer platform, an adjunct to a computer or platform, or any component thereof. Of course, a "client" should be broadly construed to mean one who requests or gets the file, and "server" is the entity which downloads the file.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is set forth in the following claims:

1. A distributed hosting framework operative in a computer network in which users of client machines connect to a content provider server, the framework comprising:

a routine for modifying at least one embedded object URL of a web page to include a hostname pretended to a domain name and path;

a set of content servers, distinct from the content provider server, for hosting at least some of the embedded objects of web pages that are normally hosted by the content provider server;

at least one first level name server that provides a first level domain name service (DNS) resolution; and

at least one second level name server that provides a second level domain name service (DNS) resolution;

wherein in response to requests for the web page, generated by the client machines the web page including the modified embedded object URL is served from the content provider server and the embedded object identified by the modified embedded object URL is served from a given one of the content servers as identified by the first level and second level name servers.

2. The hosting framework as described in claim 1 further including a redundant first level name server.

3. The hosting framework as described in claim 1 further including a redundant second level name server.

4. The hosting framework as described in claim 1 wherein a given one of the set of servers includes a buddy server for assuming the hosting responsibilities of the given one of the set of servers upon a given failure condition.

5. The hosting framework as described in claim 1 wherein the second level name server includes a load balancing mechanism that balances loads across a subset of the set of servers.

6. The hosting framework as described in claim 5 wherein the load balancing mechanism minimizes the amount of replication required for the embedded objects while not exceeding a capacity of any of the set of servers.

7. The hosting framework as described in claim 1 further including an overflow control mechanism for minimizing an overall amount of latency experienced by client machines while not exceeding the capacity of any given subset of the set of servers.

8. The hosting framework as described in claim 7 wherein the overflow control mechanism includes a min-cost multi-commodity flow algorithm.

9. The hosting framework as described in claim 1 wherein the first level name server includes a network map for use in directing a request for the embedded object generated by a client.

10. The hosting framework as described in claim 1 wherein a server in the set of servers includes a gating mechanism for maintaining overall traffic for a given embedded object within specified limits.

11. The hosting framework as described in claim 10 wherein the gating mechanism comprises:

means for determining whether a number of requests for the given embedded object exceeds a given threshold; and

means responsive to the determining means for restricting service of the given embedded object.

12. The hosting framework as described in claim 11 wherein the restricting means comprises means for serving an object that is smaller than the given embedded object.

13. The hosting framework as described in claim 11 wherein the object is a ticket that allows a client to receive the given embedded object at a later time.

14. A method of serving a page supported at a content provider server, the page comprising a markup language base document having associated therewith a set of embedded objects, each embedded object identified by a URL, comprising the steps of:

rewriting the URL of an embedded object to generate a modified URL, the modified URL including a new hostname prepended to an original hostname, wherein the original hostname is maintained as part of the modified URL for use in retrieving the embedded object whenever a cached copy of the embedded object is not available;

in response to a request to serve the page received at the content provider site, serving the page with the modified URL;

attempting to serve the embedded object from a content server other than the content provider server as identified by the new hostname; and

if the cached copy of the embedded object is not available from the content server, serving the embedded object from the content provider server.

15. A method of serving a page and an associated page object, wherein the page is stored on a content provider server and copies of the page object are stored on a set of content servers distinct from the content provider server, comprising the steps of:

(a) modifying a URL for the page object to include a hostname prepended to a content provider-supplied domain name and path;

(b) serving the page from the content provider server with the modified URL;

(c) responsive to a browser query to resolve the hostname, identifying a given one of the set of content servers from which the object may be retrieved; and

(d) returning to the browser an IP address of the identified content server to enable the browser to attempt to retrieve the object from that content server.

16. The method as described in claim 15 wherein the copies of the page object are stored on a subset of the set of content servers.

17. A content delivery method, comprising:

tagging an embedded object in a page to resolve to a domain other than a content provider domain by prepending given data to a content provider-supplied URL to generate an alternate resource locator (ARL);

serving the page from a content provider server with the ARL; and

resolving the ARL to identify a content server in the domain; and

serving the embedded object from the identified content server.

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18. The method as described in claim 17 wherein the step of resolving the ARL comprises:

utilizing a requesting user's location and data identifying then-current Internet traffic conditions to identify the content server.

19. A content delivery service, comprising:

replicating a set of page objects across a wide area network of content servers managed by a domain other than a content provider domain;

for a given page normally served from the content provider domain, tagging the embedded objects of the page so that requests for the page objects resolve to the domain instead of the content provider domain;

responsive to a request for the given page received at the content provider domain, serving the given page from the content provider domain; and

serving at least one embedded object of the given page from a given content server in the domain instead of from the content provider domain.

20. The content delivery method as described in claim 19 wherein the serving step comprises:

for each embedded object, identifying one or more content servers from which the embedded object may be retrieved.

21. The method as described in claim 20 wherein the identifying step comprises:

resolving a request to the domain as a function of a requesting user's location.

22. The method as described in claim 21 wherein the identifying step comprises:

resolving a request to the domain as a function of a requesting user's location and then-current Internet traffic conditions.

23. A method for Internet content delivery, comprising:

at the content provider server, modifying at least one embedded object URL of a page to include a hostname prepended to a domain name and a path normally used to retrieve the embedded object;

responsive to a request for the page issued from a client machine, serving the page with the modified embedded object URL to the client machine from the content provider server;

responsive to a request for the embedded object, resolving the hostname to an IP address of a content server, other than the content provider server, that is likely to host the embedded object; and

attempting to serve the embedded object to the client from the content server.

24. The method as described in claim 23 wherein the hostname includes a value generated by applying a given function to the embedded object.

25. The method as described in claim 24 wherein the value is generated by encoding given information, the given information selected from a group of information consisting essentially of: size data, popularity data, creation data and object type data.

26. The method as described in claim 4 wherein the given function randomly associates the embedded object with a virtual content bucket.

27. The method as described in claim 26 wherein the given function is an encoding function.

28. The method as described in claim 26 wherein the given function is a hash function.

29. The method as described in claim 23 wherein the modified URL also includes a fingerprint value generated by applying a given function to the embedded object.

30. The method as described in claim 29 wherein the value is a number generated by hashing the embedded object.

31. The method as described in claim 23 wherein the page is formatted according to a markup language.

32. The method as described in claim 23 further including the step of rewriting the embedded object URL as the content provider modifies the page.

33. The method as described in claim 23 wherein the step of resolving the hostname includes:

identifying a subset of content servers that may be available to serve the embedded object based on a location of the client machine and current Internet traffic conditions; and

identifying the content server from the subset of content servers.

34. A content delivery method, comprising:

distributing a set of page objects across a network of content servers managed by a domain other than a content provider domain, wherein the network of content servers are organized into a set of regions;

for a given page normally served from the content provider domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain;

in response to a client request for an embedded object of the page:

resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and

returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

* * * * *

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UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,106,703

DATED : Aug. 22, 2000

INVENTOR(S) : F. Thomson Leighton, Daniel M. Lewin

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11, line 1, delete "assachusetts" and substitute -- Massachusetts --.
In Column 11, line 2, delete "ncorporated" and substitute -- incorporated --.
In Column 11, line 3, delete "ake" and substitute -- make --.
In Column 16, line 9, delete "Database s a nd" and substitute -- Databases and --.
In Column 16, line 20, delete "a nd" and substitute -- and --.
In Column 16, line 24, delete "Provider s" and substitute -- Providers --.
In Claim 1, Column 17, line 21, delete "pretended" and substitute -- prepended --.
In Claim 1, Column 17, line 32, after "machines" insert -- , --.
In Claim 17, Column 18, line 64, delete "ARt" and substitute -- ARL --.

Signed and Sealed this

Fifteenth Day of May, 2001

Attest:

NICHOLAS P. GODICI

Attesting Officer

Acting Director of the United States Patent and Trademark Office

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

JURY TRIAL
DAY TWO – SECOND SESSION

[February 12, 2008]

* * *

[14]

* * *

Q. Dr. Leighton, could you tell us something about publications, what publications you're responsible for.

A. I've written two books and over 100 research papers.

Q. You said that you work at Akamai now, and I think you said that Akamai was formed to commercialize the technology that's involved in this case. Could you explain a little bit about what Akamai does.

A. Akamai delivers information and content from Websites. Do we have an Internet connection? I could show you a simple example.

Q. Please do.

A. If we could go to, yea, Yahoo.

Q. Let's wait for it to come up, Dr. Leighton. There you go.

A. So, here's an example, the pictures there, the Yahoo banner, the ad for the car there, and a lot of the Icons on the page. Most of what you see there, except for the text, is actually being delivered to the computer in this courtroom from an Akamai computer and probably an Akamai computer that's nearby here in [15] Boston. So, that's what we do, is we deliver the stuff — a lot of the stuff that comes on the Website to users.

Q. Did Akamai design that page?

A. Oh, no. Yahoo, you know, figures out how they want their page to look. They get the pictures. They get the ads. They put it all together, and then they give it to us and then we distribute it for them. So, we make lots of copies of the Yahoo banner and lots of copies of the pictures and then send them out in particular to the computer here in the courtroom.

Q. Does Akamai do this for other sites beyond Yahoo?

A. Yes. We do this for over 20,000 sites today.

Q. Can you give us some examples, please, sir.

A. Sure.

THE WITNESS: Josh, can you go the Red Sox site?

A. That's one of the Akamai customers. So, you see the banner up at the top there and the World

Series championships. You see the picture. It might be — maybe that's Bob. I'm not sure. And the stuff on this screen — pretty much everything you're seeing, except some of the text, is coming from Akamai computers here.

THE WITNESS: You can do — another site is eBay. You can go to eBay, Josh.

[16] A. So, you know, the picture of the car there, the banner, a lot of the stuff you see on the page comes from Akamai's computers.

THE WITNESS: And maybe one more. Go the Apple iTunes site.

A. So, if you have ever download a song from Apple for your iPod or iPhone, that comes from Akamai. So, we would deliver that to your device.

Q. How many songs has Akamai delivered for Apple?

A. Over three billion songs.

Q. Okay. You've told us a little bit about yourself and about Akamai. Now I'm going to ask you about the problem that you saw and confronted in the 1990s.

When did you get — when did you first get involved in the work that led to the invention that's involved in this case?

A. 1995.

Q. Did Akamai exist at that time?

A. No. I was a professor at MIT.

Q. Were there problems that you saw with respect to the Internet back in 1995?

A. Yes. There were four problems that were in the process of emerging in 1995, and I have a slide with those problems.

MR. FRANK: Could we have Leighton [17] demonstrative 5, please.

A. The first problem was that the number of users was in the process of exploding on the Internet. In the early '90s, there were relatively few people using the Internet and they weren't using it for very much. There were some researchers using it to share data. Some people were sending email.

But towards the late '90s, it became clear that hundreds of millions of people were going to be using the Internet and they were going to be using it to do a lot more things. They were going to be using it to buy things on eBay or Amazon. They were going to be using it to get information, to get video, to get audio, and this was going to be a dramatic increase on the burden on the Internet.

Q. Give us a sense, please, Dr. Leighton, of the rate at which Internet use was increasing in the middle '90s.

A. It was doubling every three months, which means that over the period of a year, it was increasing by a factor of 16-fold increase.

Q. So, you've told us that the number of users was increasing and the number of uses by each user was increasing. Was that a problem? And if so, why was it a problem?

A. Yes, it was becoming a big problem, and it's [18] because of the load it was placing on the Internet and on the Websites, the computers that make up the Websites.

The Internet is not like TV. You know, with a TV it doesn't matter how many people tune into a channel. The signal coming from the satellite or the TV

broadcast tower is the same. There's no difference. So, if more people turn on the show, nothing changes.

With the Internet, it's very deficit. Every time you download a song or you go to a Website, your computer is sending a request for information to the Website's computer and that Website computer has to process that request, get what you want and send it back to you. And so, if twice as many people are using the Internet, that doubles the amount of computers you have to have, the infrastructure you have to have to support that on the Internet.

Q. The second item on that list of points says, "Increasing size of objects." What does that mean?

A. Well, back in the early to mid '90s, Websites were very simple. They have a little bit of text on them. Sometimes they have pictures. It was rare they would have video. Sometimes it would be video and it would be one of these little thumbnail grainy, you know, video imagines, and over time that was changing where the [19] Websites had a lot of nice pictures and nicer videos, to the point where today you want to get TV-quality video on the Internet, and it won't be long before people are going to want to have high-definition video coming over the Internet.

Now, this places an even larger burden on the computers that make up the Websites and on the wires that make up the Internet.

Q. Why does it place a larger burden on the computers that make up the Websites and the wires in the Internet?

A. Well, for example, a picture has a lot more bits of information to make up the picture than text does, you know. For example, to describe a picture to your computer, every little pinpoint there has to have a

color associated with it. And so, it takes a lot of data to be able to describe that picture to your computer.

In fact, I have a graphic here that gives you the relative size of data needed to paint a picture on your screen versus text. So, in a typical Web page today and back then, there would be about 10,000 bytes of data. This is — "K" stands for a thousand. Whereas, the pictures — the pictures on the screen for the Website would have about ten times that much. You know, instead of a picture is worth a thousand words, it actually [20] takes more than a thousand words worth of data to describe a picture typically.

Q. Sorry. Go ahead.

A. So, then if you go to video — if you put the video up here. The video is a monster. What these relative sizes are showing is the amount of data that has to get sent to your computer to display the video versus displaying the picture, and that's — you sort of see why that's true, because a video is like a series of frames of pictures, many per second. So, you know, as video came onto the Web, that places even more burden on the computers and on the infrastructure.

Q. So, there was a relationship between the two factors that we've described, users using more often and the objects themselves getting bigger, having more computerized information underneath them?

A. Yes. You had a multiplicitive effect. You had more people using the Web, they're using it more often, and when they're using it, they're getting bigger objects. They're getting pictures and videos instead of just text, and that multiplied the burden being placed on the computers at the Websites and on the Internet itself.

Q. Now, the third item — actually, let me slow that down and ask: What is it about increasing load on [21] computers' Websites that present a problem?

A. When you load up the computer, it slows down, and if you load it up too much, it crashes and stops working all together. And so, this led to the Internet — with the Web slowing down. There was a phrase that was coined back then that instead of Worldwide Web, it's the worldwide wait because it was taking longer and longer to get what you wanted off the Websites.

Q. The third item on that list says, "Flash crowds." What is a flash crowd?

A. A flash crowd is when a lot of people come to a Website all at the same time. That tends to swamp it out with traffic.

Q. Is there a derivation of the word "flash crowd"?

A. Yes. It comes from the term "flash flood." You know, you have your stream going along just fine. Then the thunder storm hits and, all of a sudden, the stream turns into a raging torrent of water and you get flooded. The same thing happens on the Internet when the Website is going along just fine. All of a sudden, there's some event that triggers a lot of people to go to the Website and it gets swamped with traffic.

Q. Can you give us some examples?

A. Yes. You know, for example, say there's a game that's taking place and people want to go in and check [22] the score or say there's a big news event and people want to find out, you know, what happened or where there's a hurricane. People all rush to the weather sites, or maybe the Website itself is setting up some kind of contest. You know, you

can vote for your favorite, you know, actor on TV, or something, and you go to the Website and this draws a lot of people to the Website at one time.

Q. Are flash crowds predictable events?

A. Sometimes they are. For example, news sites know when the primaries are going to happen. So, they know they're going to get a flash crowd of people coming to see who won the primary. If you know when the game is going to be played, which you usually do, you know there's going to be traffic then.

Other times you don't know ahead of time. Maybe there's an earthquake and you can't predict the earthquake, and a lot of people want to go and find out. So, there you don't know ahead of time when it's going to come.

Q. Were flash crowds a problem? And if so, why?

A. People were worried quite a bit about it and they did become a problem towards the late 1990s.

Q. Can you give me an analogy? Can you give us an analogy that — something outside the computer world [23] that relates to these issues of a lot of load on computers and the flash crowd phenomenon?

A. Yes. For example, say you're riding the T. The T has been designed to accommodate — fairly accommodate rush hour traffic loads. So, if you go to the T in the middle of the day, usually it's great. You know, it doesn't take too long. You get to where you want to go. There's lots of open seats on the car.

If you go to the T during rush hour, it can be painful. You may wait to get on and it's slower going and you're squished in there. If you get on the T near Fenway Park right after the Red Sox game is over, it's a nightmare, you know. You wait for maybe

an hour, depending on how bad it is and it's just totally overloaded.

Q. So, let's take that example of the T and relate it back to the 1990s and the load being put on Websites at that time. Take the 10 o'clock in the morning T example and relate that to a Web user's experience in the middle '90s.

A. That would be like going to the Website in the middle of the night and, you know, back then if you went to the Website in the middle of the night, it was great, really fast, because nobody is going there.

Q. Okay. Now, next step. Let's talk about the rush [24] hour analogy. In the computer world of the '90s, what happened at, let's say, a normal peak load situation?

A. Rush hour on the Internet is during the peak of the business day and that would be early afternoon Monday through Friday, and the Websites would slow down. You'd probably still get your content from the site, but it would take you longer to get it because more people are going there.

Q. In the computer world in the '90s, what's the — what happened in the end of the Red Sox game situation?

A. That's like the flush crowd scenario and that would swamp the Website all together. It would be very slow or go down. It would crash.

Q. Couldn't you solve this problem just by buying more computers or having bigger or more efficient computers at the Websites themselves?

A. That's what people initially tried to do. You buy more computers for your Website and that certainly can help, but it's not enough and it's very expensive.

For example, if you're trying to build out enough capacity, enough computers, for a flash crowd, well, you need to know when the flash crowd is coming and you need to know how big it's going to be, and you don't know. That's guesswork.

Now, if you guess low and bought a lot of [25] computers, the flash crowd is bigger and you got wiped out. So, you spent a lot of money and your site went down. That's bad. If you guessed high, you spent a lot more money than you needed to spend.

And not only that, even if you guessed right, you'd be fine for that flash crowd, but now you've got a lot of computers sitting around that aren't doing anything the rest of the year. And that's why, for example, the T is not built to handle the Fenway flash crowds or the other kind of event flash crowds because it's not economical to do that.

Q. Was the amount of horse power on the computers at the Websites the only issue?

A. No. There was also the issue of the Internet around the Website. So, even if you had enough computers at the Website, you could have a problem where the Internet routes coming into the Website would get flooded with traffic. And so, that could become the bottleneck and that could go down.

You know, an analogy that I think you mentioned in your opening was, you know, say you doubled the size of Gillette Stadium. You'd have no trouble selling 100,000 tickets to go see the championship game.

The problem would come in terms of everybody trying to get there. You know, it's already big traffic as it [26] is on Route 1. Imagine doubling the crowd and you'd have that phenomenon, only a lot worse on the Internet.

Q. You say, "a lot worse." Both of us have used this example of doubling the size of Gillette Stadium. Is that the kind of increase that you get when you have a flash crowd?

A. No. On the Internet it's a lot worse. A typical flash crowd will be a ten-fold increase in traffic. I've seen them go as large as 100 times increase or even a thousand times increase in traffic. It's like trying to build, you know, a thousand Gillette stadiums. It's very challenging.

Q. Let's go back to that list.

You took us through the flash crowd item. I want to ask you about No. 4, which is distance. What was the — was there a problem associated with distance? And if so, what was it?

A. Yes. That was also consideration. You know, back in the '90s, if I'm here in Boston trying to go to Yahoo, Yahoo's Website is in California. So, I'd have to go all the way across the country, across the Internet to get it, and the farther I have to go, the slower it's going to be and the more chance there is for something to go wrong.

Also, the farther I have to go, the more load my [27] traffic is putting on the Internet because I'm using more length of wires to get there. So, it compounds the load issues further.

Q. Okay. So, you told us about these four problems. The number of users and uses was increasing. The size of the things being requested and delivered was increasing, the flash crowds, and distance. Was that actually overwhelming the Web in 1995?

A. Not yet, but people realized it was going to happen and it was going to be a big problem.

Q. Are you the only one who saw this problem coming?

A. No. A lot of people were working on this problem. Researchers, you know, all around the country, including, I think, all the experts we're going to hear from in this trial. They were all at the time looking at this problem in one aspect or another.

Q. Wasn't was this just a — let me put the opposite question. It was this just sort of theoretical question that you guys were worrying about, but not much was happening?

A. No. This was a real problem. Things were slowing down. A lot of experts were writing articles, the Internet is going to collapse from the coming load. It was an academic problem. I was an academic and was interested in it from the academic perspective, but it [28] was a real problem.

Q. The were there some real-life examples of stuff that happened that reflect this kind of problem?

A. Yes. Towards the, you know, late '90s Websites started crashing from flash crowds. I think the most famous example was when the Victoria Secret Website crashed. In late 1990s, Victoria Secret created an online site where you could buy their products, lingerie, whatever you wanted to buy, and they wanted to advertise and let people know that you could go online to buy stuff. So, they put an ad in the 1999 Super Bowl and, of course, the ads for the Super Bowl are pretty famous. A lot of people, you know, watched that. And on their ad they showed some models wearing lingerie coming down the runway and they said, If you want to see the fashion show, come to our new Website, www.victoriasecret.com, on Tuesday night at 9 o'clock and we're going to broadcast the fashion show

over the Internet, which is, you know, a pretty cool thing back then.

So, Tuesday night at 9 o'clock came and a lot of people, you know, saw the ad, wanted to see the fashion show. So, they all went to the Victoria Secret Website and immediately it crashed. Not only that, it took down the Internet around Dallas because the Website was in [29] Dallas and it knocked out the whole infrastructure there because everybody is trying to come and see the fashion show.

Q. Now, which of the problems of the four problems that you called out to us before, caused the crash of that Website and the crash of the Internet in that neighborhood?

* * *

A. It was the first three problems. First there were a lot of users. What they were trying to get was a video. So, that's very heavy. A lot of data has to be sent for each video. And it was a flash crowd because they're all coming at the same time. So, this is the multiplying effect of all three phenomenon at the same time.

[30]

* * *

Q. You said that you started to work on this problem in 1995. How long did you — how much time did you spend addressing the question of growing traffic and flash crowds?

A. Three years.

Q. How much of your time did you spend working on that problem during that time?

A. At the beginning in the '95-'96, time frame it was part time. You know, roughly a quarter of my research time was spent thinking about this. As I

moved to '97 and '98, it became pretty much full time, to the point of near obsession by 1998.

Q. You said that this was a widely-recognized problem. Were other people working in the same field and looking at the same problem at the same time?

A. Yes, there were a lot of people working on this. A lot of solutions were proposed, some better than others.

[31]

Q. Were they all pursuing the same approach to the problem?

A. No. There were a variety of different approaches to the problem.

Q. Did you eventually come up with a solution or set of solutions?

A. Yes.

Q. Who came up with the solution or set of solutions?

A. Danny Lewin and myself.

Q. Who is Danny Lewin?

A. Danny Lewin was my graduate student. He was a brilliant student and a very nice guy, very driven, very hard working, and he was a great colleague, a good friend, had a very nice family, a wife and two children. And I have a picture here of him if we are allowed to display that.

MR. FRANK: Could we have Exhibit 667.

A. That's a picture from that time frame. Danny is on the left and that's me on the right.

Q. Where is Danny now?

A. He died in 2001.

Q. You said that it took you three years from start to finish. Why did it take that long?

A. Well, it was a hard problem and we, you know, didn't come on the solution right away. We went down [32] lots of paths, many of them false starts, and it took a long time to get to the right solution.

Q. How did you decide whether a particular solution was going to work?

A. Well, there were, you know, a couple of aspects. First, we were mathematicians and computer scientists. And so, we had to, you know, vet it technically, make sure we liked the technical solution, and then we had to vet it with potential customers to see would this work in the real world because, you know, we were academics.

Q. Was the fact that you were a mathematician a good thing or a bad thing?

A. It was both. You know, the good thing about being a mathematician is, you know, we think out of the box. You know, mathematicians aren't constrained by the real world, generally. And so, you can go off and do crazy things. So, that's the good news, is, you know, we could do something different and not even worry about it being different, in some sense.

The bad news is that sometimes we didn't even where the box was and because we were not worried about reality so much, we would miss the boat. And so, we would come up with something we thought was just the best thing going, only to learn that, you know, when we talked to potential customers, it was not going to go [33] anywhere.

Q. Did you and Danny eventually come up with a concept as to what qualities you would want a system to have in order for it to be successful?

A. Yes. You know, after a lot of back and forth, we came up with five criteria for what the solution had to be.

Q. Let me stop you.

MR. FRANK: Could we have Leighton demonstrative 14, please.

A. These are the five criteria.

Q. Wait for me.

A. Okay.

Q. Let's take them one at a time.

The first one says, "Easy for Websites to implement." Would you explain what that means.

A. Yes. Ideally, the person who has the Website would just flick a switch and all of a sudden, the solution would be turned on. They wouldn't have to do anything.

In particular, this means they wouldn't have to do a lot of development work or take a lot of our code and stick it in their Website. They wouldn't have to buy a bunch of computers and hook them into their Website computers because, you know, that would take a lot of time and they were very nervous about, you know, us or [34] anybody coming in and messing around with their Website because it might take it down or mess it up and they were concerned about that.

Q. Okay. The second item is, "Invisible to Internet users." First, tell us what that means, and then I'll ask you why it makes a difference.

A. That means that, you know, the people going to Websites wouldn't even know anything had changed. They wouldn't have to download any special software. They wouldn't have to change how they use the Internet.

Q. Why was it important or significant that Web users not have to do anything different from what they were doing before?

A. Well, there's hundred of millions of people that were going to be using the Web. They all have different kinds of computers and if we had to put software in all these different kinds of computers, that would be major effort, and even worse, if we had to retrain people how to use or go to a Website, that would be very difficult to do.

Q. The third item on the list is, "Highly responsive to changes in demand." What does that mean?

A. Well, that's sort of the whole point. You know, if there's a flash crowd coming, we want this solution to be able to handle it. You know, if a lot of people are [35] going to a Website at one time, without us knowing in advance, we want to be able to handle that load of traffic.

Q. The fourth item on the list is, "No single point of failure." What does that mean?

A. A single point of failure is a single computer or piece of software, such that if it fails, the whole system comes down and, you know, with the Internet, things fail all the time. Computers fail all the time, and we didn't want to build a system that had such a single point of failure, because if you did, it would be going down.

Q. The fifth and last requirement for the system was that it be economical. What do you mean, "economical"?

A. By that I mean that we had to be able to handle the flash crowds for the site. We had to be able to improve their performance, but do it for less cost than they were already spending. We had to save them money at the same time, and we got that feedback from customers we talked to that if it didn't cost them less, they weren't interested.

Q. Did you eventually come to a conclusion or a set of conclusions as to the approach that you need to follow in order to meet these system requirements?

A. Yes.

[36]

Q. Would you tell us a little bit about that approach.

A. Yes. At the high level, it would have to be what we called a content delivery network service. I have a slide of that, if we can show it.

Q. What is — or what was the idea for a content delivery network service?

A. The idea was that we would buy and position a large number of computer servers and they would have to have special properties. We would position them and then make them available as a service to the Websites. So that when the Website wanted to serve content, they would buy the service from us and our servers would serve the content for them.

Q. So, this was to be done, I think you said, as a service for the Website by computers that had, I thought I heard you say, special properties. What were the special properties that you're talking about?

A. There were three. The system needed to be shared. Computers need to be shared. They needed to be distributed and they needed to be flexible.

Q. Wait one second.

MR. FRANK: Could we have demonstrative No. 21.

Q. You said, "Shared, distributed and flexible." Let's take them one at a time — actually, let's even [37] stop on that.

When you say "a server," what's a server?

A. A server is a computer that serves you the content. It delivers it to you. It sends it to you.

Q. So, at the Websites, for example, what do you call the computers that receive the requests for pictures or music or video, find whatever it is that I'm looking for and ship it back to me? What do you call that?

A. Those are servers.

Q. Okay. Now, you said that these servers, the servers of the content delivery network service provider, would have to these characteristics, one of which is "shared." What does that mean?

A. That means that they're shared among lots of different Websites. So, in particular, one of our computer servers might be sending somebody an iTune song at the same time they're sending somebody a picture from Yahoo's Website, that a single computer is working on behalf of many Websites at the same time, and that's different than Yahoo having all of their servers here (indicating), and Apple having of all of their servers, and so forth.

Q. Why does it make any difference? Why does it make any difference that these servers would be shared?

A. Well, it makes it a lot more economical. For [38] example, if Apple has to have enough servers to handle their biggest flash crowd of the year and Yahoo has to have theirs to handle their biggest flash crowd of the people, and everybody has thousands of Websites and they all have to have all this extra capacity to handle the biggest flash crowd, that's a lot of servers, and if you can share them, you great economies because it's not likely that they will all have the flash crowd at the same time. On a given day, you might have two or three of the Websites have a flash crowd, but the other thousands not, and this gives you much better economies.

Q. So, the second characteristic or — I forget the words you used, but the second attribute that I think you said these servers would have to have is that they would be distributed. In the computer world, what does it mean to have distributed computers?

A. That means the servers wouldn't all be in one place. They would be in multiple locations or points of presence around the Internet.

Q. Why does it make any difference that computers are either all in one place or in multiple locations?

A. Well, there's a couple of reasons. First, if you put them all in one place, that's a single point of failure. Second, if you put them all in Dallas, say, and then you're doing the fashion show there, well, [39] Dallas is going to be the Internet — and Dallas is going to be the bottom line, it's going to crash. So, you want to spread them around.

Q. And does spreading the computers around have any other benefits or attributes?

A. Yes. It means that you can get the content without going across the country for it. You know, if we have servers here in New England, you wouldn't have to go to Yahoo. You wouldn't have to go to California to get Yahoo. You could get it here locally in England and that would be faster and more reliable.

Q. Now, the third item on the list of what's headed, "Solution Framework" is that the servers for the content delivery network would be flexible. What does "flexible" mean in this context?

A. This is one of the trickier parts. You have servers placed in various geographies. You know, you have England, Dallas, California, multiple locations, and within any location, you're serving content for many Websites, many thousands of Websites, and at any given time, each Website is going to need a different amount of capacity in the servers, and it's changing constantly. It's very dynamic. And so, you need to be flexible so that at any given time in New England you're allocating enough resources to the Red Sox site and to [40] Yahoo and to Apple and, of course, this changes.

For example, in Denver — probably nobody was going to the Red Sox site in Denver until you get to the World Series, and then probably there's a bunch of interest, you know, at that time in the Red Sox site. So, now you're allocating more resources there on the fly. So, the system had to be flexible that, you know, you're allocating the right amount of serving capacity to each Website at the right time in the right geography.

Q. Now, you said that there would be this content delivery network service, that it would have servers spread around that would have this kind of flexibility and it would carry content from many suppliers, but

the missing part here is how would I as a user of the Internet or any of the rest of us get to — or get our requests for content, for pictures and songs, and so on, to go to that set of shared distributed and flexible servers?

A. Okay. That's the hard part and it's a key to the invention.

* * *

[51]

* * *

Q. Tell us — what that slide says is change the hostname of an object to be a CDN or virtual hostname. Now, you told us before — well, first, what's an object?

A. That's Fluffy's picture in this case.

Q. And tell us again what a hostname is.

A. The hostname is the name of the computer that has Fluffy's picture where your computer has to go to get it.

Q. And, now, what is a CDN virtual hostname?

A. CDN stands for content delivery network, and virtual hostname is something different. Let me show you an example of this.

* * *

[53]

* * *

Q. I just want to set this so that we have context. You said the context here is that with respect to a particular object — you told us Fluffy's picture — you're going to change the hostname, www.mydog.com, to something that you called a CDN virtual hostname, and then you gave the example that I just pointed out that is smack in the middle of the patent.

What are we talking about here? What is this?

A. Okay. So, in this case I made an example of CDN virtual hostname, and I'll talk a little bit more about what that means in a minute. It's a123.akamainet, and the whole key is that we're placing the original hostname, the name of the computer that had Fluffy's picture, with something that belongs to the content delivery network. This is going to be used to direct you to the content delivery network to get Fluffy's picture there. So, we're replacing the old hostname [54] with something that's not a new hostname. It's a virtual hostname from the CDN.

MR. FRANK: Could we have Leighton demonstrative 35, please.

Q. Okay. Now, let's take this in pieces, Dr. Leighton.

Would you tell us, please, what the various parts — or dissect that for us. Tell us what's going on in the CDN virtual hostname.

A. Okay. There's three key parts to what it makes it be a CDN virtual hostname. The first —

THE WITNESS: If we could have the next demonstrative, please.

A. — is that it points to the content delivery network. Now, in this case you see Akamai right there. And so, it's pretty clear that's pointing to the Akamai's content delivery network. And that means that now instead of getting it from mydog.com, somehow they're going to get it from Akamai.

Q. Let me stop there you just to make sure that's clear.

If the URL has a hostname that says www.mydog.com, the user's computer is going to use that hostname to go where?

A. Mydog.com. It's in their domain.

[55]

Q. If my computer goes and gets a URL that has a hostname that has the Akamai name in it, the effect of that is what?

A. Well, it's going to get it from Akamai because that's an Akamai domain.

Q. Okay. I'm sorry. I interrupted you.

You said there were three parts here. What's the next part?

A. The next part . . .

THE WITNESS: If we could go to the next slide, please, Josh.

A. That's the a125 part, and typically that will encode some information about the objects.

Now, in this case we only showed you one picture of Fluffy, but mydog.com might have lots of pictures of dogs and we might use the same CDN virtual hostname for all of it, and then a125 might be telling us or encoding for us that these are pictures from dogs from the mydog.com Website. So, it's encoding some information there about what the objects are.

Q. You said three parts. Third part, please?

A. The third part goes to the fact it's a virtual hostname. By that I mean it's not quite — it's not a real hostname or a regular hostname. It's like virtual reality. It's sort of real, but it's not quite the same [56] thing, and let me try to explain that difference because that's also important.

With a regular hostname, that's the name of a computer or a group of computers and it's pretty static. You know, mydog.com has their computers and, you know, you look it up in the phone book and the phone book changes once a year, and you have a direct translation.

A virtual hostname doesn't work that way. The virtual hostname corresponds to a continually changing set or group of computers, because at any given time, you know, mydog.com might correspond to three servers in Boston, two in Dallas, you knew, one in San Francisco, and demands could change, loads could change, and now it's going to be one in Boston, five in Dallas and two in California.

So, it's not fixed and tied in. It corresponds to the Akamai collection of servers, but the ones that we're going to select are decided on the fly, and that goes to the second part of this key innovation.

Q. So, let's slow it down.

Help me to understand again — or tell me again why would you use CDN virtual hostname.

A. Okay. So, you use it to instruct the user's computer to come to Akamai for the object. You use it so that Akamai's content delivery network is going to [57] have some information about what you're looking for and so that we can now get you the Internet address of servers that are going to be good for you and we do that using a second part.

Q. Now, let's go to the second part.

How do you — and the real — the core question is going to be: What is it that gets this CDN virtual hostname and what does it do with it?

MR. FRANK: Slide, please.

A. Well, we create something we call a content delivery network intelligent Domain Name System.

Q. Let me stop you just again. I want to take this just in pieces.

The first word on the slide is "resolve" and it's in the context of, "Resolving a CDN virtual hostname." What does that mean?

A. Resolve is where you translate the name into the address, the Internet address.

Q. And the second part says, "Using a CDN intelligent Domain Name System." What does that mean?

A. So, this is not the ordinary DNS that we talked about before. Sort of think of the ordinary DNS is the collection of phone books out there. You got the phone book from Boston, the phone book from Dallas. You put them all together, that's ordinary DNS.

[58]

This is a much more dynamic and intelligent system where when you come to us looking for the Internet address for a123.akamai.com, we're going to give you addresses of our computers that are good for you, that are optimal in some sense, and that they would be close to you, that they won't be overloaded, preferably, and they're likely to have Fluffy's picture, if that's what you're coming to us for.

Q. Now, how does the — you said that the content delivery network would have an intelligent Domain Name System. It would get the CDN virtual hostname because it's sent by the Internet. It pointed to Akamai and gets it. And what does the intelligent CDN DNS actually do when it gets that CDN virtual hostname?

A. Okay. So, it sees that a125 part and that gives it some information about what you're looking for and it processes it in the DNS system and then returns to you Internet addresses of our computer servers and preferably — the goal is to send you the good servers for you, so you can get Fluffy's picture quickly.

And, for example, that means the servers should be near you. So, you try to pick servers that are close to you. We try to pick servers that aren't overloaded, and we try to pick servers that are likely to have Fluffy's picture already there for you.

[59]

Q. You've cited those characteristics a couple of times. Why would you want — why is it a good thing or, for that matter, a bad thing that my request for Fluffy's picture come from a server that's near me or close to me?

A. Well, if it's close to you, then you're going to get it faster because it's nearby.

Q. And I think another attribute you said is that the server — that a desirable attribute is that the server not be overloaded. Why?

A. Well, if the server is overloaded, it's going to take you longer to get Fluffy's picture or you may not get it at all because the server is swamped out.

Q. And the third characteristic or attribute that you identified was that you — that it's good if the server is likely to have the object. Why is that a good thing?

A. Well, because you're going to be coming to this server to get Fluffy's picture. If it's not there, that server has to go out somewhere and get it before it can give it to you and that times more time.

Q. Let's stop here for a second.

Let me ask you — there's a lot of information in the last ten minutes. Let me ask you to summarize for us what you just said.

MR. FRANK: Slide, please.

[60]

A. So, there's five steps here in this part of the process. The first is that you have to change the hostname for Huffy to be a CDN virtual hostname. That's how you get the end user to come to the content delivery network and get the picture.

Now, this is done before anybody tries to get Fluffy's picture. So, this is not done in response to somebody asking for Fluffy's picture. It's done ahead of time and it's done at the Website. You change the hostname.

Then the second step is the user now requests Fluffy's picture, and then the third step is that virtual hostname that we replaced, you know, for the normal hostname points the user to the CDNs intelligent DNS, the dynamic DNS system. Then the intelligent DNS, the fourth step, uses information in that virtual hostname to select servers that are preferably close, not overloaded and likely to have the object, and it returns the Internet addresses of those servers to you, and then the fifth step is you go to one of those servers to get Fluffy's picture.

Q. Let's go back to the fourth step for a second.

You say there that the CDN intelligent DNS uses the CDN virtual hostname to select servers, plural, that have those desired attributes.

[61]

Why did you use the word "servers," plural, rather than server, singular?

A. Well, typically, it will return more than one.

Q. Why?

A. Well, the number of return depends on how much load there is for Fluffy. You know, it's sort of a silly example, but say Fluffy was really popular and a lot of people wanted Fluffy's picture in Boston. Then we're going to have more servers that are going to be handling requests for Fluffy.

A more realistic example, you know, might be a popular iTune song or, you know, the Red Sox site when something big happens for the Red Sox. So, the number of servers you return is determined by how much load there is in each geography for the content.

Q. Is there any other reason for returning the Internet addresses of more than one server?

A. Yes. Generally you always want to do more than one. You want at least two for fault tolerance reasons. If you only gave one back and that server failed, it would be a single point of failure. So, you always want to have at least two go back, so that if one fails, then you'll go to the other one and get it there.

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[66]

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Q. Now, you've told us a little bit about the invention. Where were you and Danny Lewin when you guys came up with this set of ideas?

A. We were at MIT then.

Q. How did these ideas get from a set of concepts at MIT into a working business?

A. Well, that was — that was a long process and a little bit of a long story. The short of it is that at MIT there's something called the 50-K Contest, and it's a student-run business plan competition. It's called the 50-K because the winning teams split $50,000 to start companies based on their business plans, and in the fall of 1997, Danny got the idea that we should take what we've been working on, and we hadn't by then gotten all the details of the solution figured out, but we were working on it. He said, let's take this and we'll make a business plan and we'll enter in the competition and let's do that, and I agreed.

Q. So, now you decided to enter into the competition. What did you do?

A. Well, we didn't know how to write a business plan. So, we went to the library and got books out on how to write a business plan. And so, we used that and we [67] wrote a business plan. It wasn't very good at first, but with submitted it to the competition.

Q. Did you — $50,000 in prizes. Did you win $50,000?

A. Not exactly.

Q. What happened?

A. We won $100. We weren't one of the top teams. In fact, you know, we realized at that point how inexperienced we were at business. In fact, our — they assigned team advisers for the competition and they assigned us a well-known venture capitalist in Boston, an expert in this field. In fact, somebody who was funding a company, trying to solve this problem from a different perspective and, you know, he told us that he didn't think —

* * *

Q. Could you tell us, please, what he said.

A. He said he didn't think it was going to work and it wouldn't make for a very good business.

Q. Now, in the process of developing this business plan and thereafter, did you talk to people who you [68] thought might be potential buyers for people who would implement this system?

A. Yes.

Q. Who did you talk to?

A. Well, our first idea was to approach the big networks that make up the Internet, the big networking companies, because we felt they would be in the best position to build this service and sell it to people with Websites. People with Websites were already their customers. So, we went to talk a lot of the big times in the business. We spoke to AOL. UUNet, which then was one of the biggest names in the business. We went a local company here called Harvard NET that existed at that time. So, we talked to several of the Internet service providers to see if they would be interested in buying this technology.

Q. And what response did you get?

A. It wasn't very good. They said that they didn't think it would work, that, you know, this notion of a distributed system sounded very much like an ivy tower concept, that was great for academics, but that it wouldn't work in practice, and they just didn't have the time to be thinking about it.

Q. So, where did you find yourself as of the middle of 1998?

[69]

A. Well, at that point the 50-K competition was over and we had to decide were we going to pursue this any further or were we going to say that was a great experiment. We learned a lot of things. We published some papers, published some theses. Move on to the next problem.

Q. What would pursuing this further — looked at from your perspective in 1998, what would pursuing this further have entailed?

A. Well, the only option left would be forming a company ourselves, building the content delivery network service ourselves and then selling it.

Q. So, in thinking about whether you would do that, was that an easy decision?

A. No. We spent a long time thinking through that decision.

Q. What were the considerations?

A. Well, I like being a professor at MIT. I had tenure at MIT, which means I had a job for life, which is really nice, and MIT is a great place to be a professor. It's all I ever wanted to be. Danny wanted to be a professor. So, when he got his degree, he wanted to become a professor at MIT and, you know, when you leave — you take the leave, well, that, you know, puts you at some risk, what's going to happen at that [70] point, because it means Danny is not working on his thesis anymore, and on top of that we recognized we didn't have any business experience. You know, the 50-K competition was pretty sobering. We saw the teams that won and they were good and, you know, we didn't win, and we had, you know, not a very good experience talking to the networks because they all said, No, we're not interested. So, we were, you know, pretty nervous about it.

Q. Those are reasons for not forming a company. What were the reasons that you considered for forming the company?

A. Well, you know, we believed in the technology and this was a chance to change the Internet. You know, it's not — that kind of opportunity doesn't come along very often, you know, at least in my line of work. I spent most of my life writing papers, mathematics papers, and I like doing that very much, but it doesn't change the world. You know, there's a few people that read those papers and they like it, but this was a chance, you know, to impact the Internet and the Internet was the invention of our generation. So; it was a chance to make a difference and ultimately we decided to do it and started the company.

Q. When did you decide to start a company?

[71]

A. August 1998.

Q. Was the company at MIT?

A. No. Once we decided to form the company, we had to leave MIT. So, we had to get office space, which was close by, but it was off campus, and set up shop elsewhere.

Q. And did you have any relationship with MIT regarding these inventions and the new company?

A. Yes. We needed to get a license from MIT because we developed technology there. We started to write some code there. And so, we made an agreement with MIT where we could get for the company exclusive rights to all the technology and all the code, and in return we would give MIT a share in the company.

MR. FRANK: Can we have PX 26, please.

Q. Dr. Leighton, tell us, please, what PX 26 is.

A. I think this is the agreement that we signed with MIT that gave us exclusive rights and gave MIT stock in the company.

Q. At the bottom we just highlighted the title. It says, "This offer will expire on November 30th, 1998." When was the agreement signed?

A. Late October. We had to sign it by then, or else, and we signed it by then.

Q. Okay. Now, did you get stock in this new company?

[72]

A. Yes. As the founder — the founders, Danny and I each got a little more than a third of the stock of the company.

Q. Who were the first employees of the company?

A. They were the students that had been working with us on the 50-K team and a couple of people that I knew as former students and hired them to join the company.

Q. Would you describe those students for us.

A. They were very talented and they were very young, ranged in ages from 17 to probably 21 or 22.

Q. What did they do for this new company?

A. Their first task was to write code or program code that would make a prototype, a demonstration of the solution.

Q. Would you describe that demonstration — well, first tell us what a demonstration is.

A. Well, demonstration — you know, we had the slides, like I showed you here, but there's a big step to go from the slides and talking about it to actually

writing code that runs on computers that you can show people, hey, it really does what you said it does.

Q. So, what exactly did you and the students build by way — you and the students employees build by way of a demonstration?

A. We built sort of a mini content delivery network. [73] We got a bunch of computers and stuck them in one closet and put Eiffel Towers on them. That was the Paris location, meant to be located in Paris. We had a bunch more in the corner with Big Ben on them and that was the London set of servers. We had another set with the Golden Gate Bridge on them. Those were San Francisco.

And then what we did is we wrote code to stimulate users to going to Websites. So, we would have a lot of people going to Yahoo in California, and then we would show that more servers were being turned on for Yahoo in the California — in the San Francisco location.

Then we would go and we would unplug — physically unplug the servers in the closet, and that would stimulate Paris going down and that the people in Paris, those users would then automatically be sent to servers in London to get their content. So, we could actually show that something was really working by doing this.

Q. Why do you build a — why do that?

A. Well, we needed to do it to show potential employees that we were real. We needed to show potential customers, because we're now a company. We're trying to get customers to use it. And we needed to raise money. So, we showed it to potential investors and it helped for them to see that, well, there's something really happening here.

[74]

Q. How did that salaries get paid and the computers get — where did the money come from?

A. Well, up to that point in time, we had to use our own money. So, we were using our own credit cards to buy the servers for the demonstration. We had to buy office space, had to rent office furniture and, you know, had to start paying salaries when we, you know, got people to come work at the company and, you know, pretty quickly we started to have to get money from friends and from family and, of course, what they did is they bought stock in the company, and not long after that we had to get more money and we got it from angels, who are friends of friends of friends who are rich and are willing to make a high-risk investment, because we were very high risk at that time. So, they bought stock and gave us a lot of money and then they were hoping to make a really big return on the other end.

Q. You said that you talked to customers. Would you describe — well, first, tell us what kinds of companies you talked to.

A. So, by now we figured out that it doesn't make sense to talk to networking companies. We're building it ourselves. So, we went to talk to the Websites, you know, and we went after the big names in the business: Yahoo, Disney, CNN, Infocede, which was one of the [75] biggest and best shops in the business back then, and we went after the best names in the business with the hopes that if they bought into the service and used it, other people would follow, because they were the smartest folks in the business and, also, because they were the smartest folks in the business, they might be more willing to take a risk and listen to us, because this was a different way of

doing things and they might say, Okay, we'll try that. I get that. We'll try that.

Q. What reaction did you get?

A. It was mixed. There was interest. There was skepticism, both. And ultimately they said, well, your demonstration is nice. You know, if you build this thing for real on the Internet and put it out there, we'll try it. We'll test it if you put it out on the Internet.

Q. What did you do next?

A. So, we took the money we got from the angel investors and we used it to buy several hundred servers and we put them out on the real Internet and we got a special deal from a company called Exodus.

Q. Stop for a second. Tell us, what's Exodus? What was Exodus?

A. Exodus was a company that big data centers where people put their computers and hook them to the [76] Internet, and the CEO at Exodus was very kind to us and she said, you know, What I'm going to do is give you guys 90 days of free service. You can put all the computers you want in my data centers, hook them up to the Internet all you want, use the Internet all you want. I'm not going to charge you for 90 days. And that was great.

Q. And so, did you actually create this small, but real content delivery network?

A. We did. In fact, I have a picture here —

Q. Could we have —

A. — of us, actually.

MR. FRANK: It's 676, I believe.

A. A picture of Danny Lewin in the back there and Paul Sagan. He's our CEO.

Q. Actually, is he —

A. Still with us today.

Q. Who is this gent over here?

A. That's Paul Sagan. He was our president then.

And one of the problems is we bought really cheap servers and they came, a lot of them, broken, and what happened is Paul and Danny had to fly around the country and fix the servers and then hook them into the excess data centers, and that's what they're shown doing here.

Q. When is this? This is happening when?

[77]

A. This is the end of 1998. Probably between Christmas and New Year's 1998.

Q. How hard were you guys working at this time?

A. We were working very hard. You know, pretty much the norm was 16-hour days, seven days a week, and for a year Danny and I had a rule that 24 by seven one of us was always in the office.

Q. Now, you got these computers hooked up and I think Exodus gave you 90 days of free service. That started when?

A. That was in December.

Q. And did you — what happened? You got these servers hooked up. It's December, maybe early — it's the turn of the year, 1998, '99. What happened?

A. Well, we sort of had the strategy if we build it, they will come. We built it. Went and said, Hey, we built it, and they didn't actually come in droves. In fact, no one was willing to test in January, and it wasn't until February that we got our first test.

Q. So, what was that first test?

A. That was Disney and they put on one tiny picture from deep in their Website and they did put it on Akamai. They changed the hostname to be a virtual hostname, something like al23.akamai.net, and then anybody who went to that page would get that little [78] picture from Akamai, but not many people were going there. It was only one delivery every few minutes and that was primarily because our developers, our employees were clicking on it to see was it still running on the system.

Q. So, this is — you got a 90-day period. Any other customers — no customers in January. Any other customers in February?

A. No.

Q. What happened in March, Dr. Leighton?

A. March is when we got our first big break. In fact, we got two big breaks the same day.

Q. What day was that?

A. March 11th, 1999.

Q. What happened on March 11th, 1999?

A. The first big break happened with something that's called March Madness. March Madness is the National Collegiate Basketball championship. They have 64 teams, and they play each other until one team is left standing, and on the first day of March Madness, there's 16 games being played.

Now, this is on a weekday, a workday, and a lot of the games are played during the daytime, and people at work like to know what's going on with their alma matar or maybe there's been an office betting pool. So, a lot [79] of people want to know, and they don't have TV at work. So, the only place to find out what's happening is on the Web, and in 1999 the

main Website to go to find out who is winning was ESPN.com.

Now, ESPN was being managed — their Website was being managed by this company Infocede that I mentioned before. Infocede was the best brains in the business, which is one of the reasons ESPN was using them.

Now —

Q. Let me stop you there.

Had you had contacts with Infocede?

A. Yes. They're one of the top ten we went to and tried to get them to test the system, and they said no.

Q. So, Infocede is running these sites for ESPN, March Madness. What happened?

A. Well, March 11th we got a call from Infocede. It turns out ESPN.com had crashed from a flash crowd. Everybody is going to check the scores. You know, they're having some video clips, and stuff. It was a mess. And they said, We want to try that test now. And I said, Great. And they said, Can you handle a thousand deliveries a second? And —

Q. Context, please. At that time you were handling how much?

A. One delivery every few minutes, and that's a scale [80] up of 100,000 to one in terms of volume. So, that's big, but that's what we built it to do. And we said, Yes, we can handle it. They said, How do we use your system? We said, Great, this is easy. Change the hostname you're using for all the content to be this Akamai virtual hostname. And I forget the exact one, but it was something like a2.akamai.net. They said, Okay. So, they did that, and 15 minutes later ESPN.com is back up and running.

Q. And you said that they had said that the system would have to be able to handle a thousand hits a second. I think you said 100,000 times more than what you had been doing before that. What actually happened?

A. Well, it turns out that we were delivering now over 3,000 objects per second. So, 3,000 deliveries a second. And they had no idea how big the flash crowd was. Alls they knew was they crashed at around a thousand. And, in fact, the number of people who wanted to get this content was much higher.

Q. What was the performance of the Akamai system after it took on this load as compared to the performance of the Infocede system before Akamai?

A. This was a really good part of it. Not only was their site back up, but we were delivering their objects five times faster to end users on average than they had [81] been doing before the flash crowd hit. So, not only are they up now, but they're running much faster than they ever were.

Q. How did you do that?

A. Well, that's part of this process of on the, you know, fly sending end users to optimal servers, servers that are nearby, not overloaded, and likely to have the content they're looking for.

Q. Wasn't that true of the Infocede servers?

A. No. Well, first, they were — had crashed, but in general they did not have those properties.

Q. Now, you said there were two breaks on March 11th, 1999. What was the other one?

A. The second big break had been planned in advance and it involved the release of a Star Wars trailer. Now, back in 1999 the Star Wars movies

were big deals. In fact, they were such a big deal, that the studio would released a preview of the movie six months in advance, you know, a little 60-second clip, here's what's coming in the next Star Wars movie, and this particular preview was not going to be released on TV. It was only going to be released on Internet to sort of drive people to the Internet sites.

Apple was one of the sites. It was probably the major site hosting or serving up this trailer, and it [82] was scheduled to come at 9 o'clock on that March 11th evening.

Another site that had the trailer that we talked with was Entertainment Tonight. They had a Website. And they said, Akamai, we want to test you. We want to test you on delivering the Star Wars trailer. And everybody knew that was going to be a big deal, a big flash crowd. And so, they figured that would be a good test for our system, and they didn't want to buy all the computers they would need to be able to deliver it. So, we said, Great.

So, they changed the hostname to be the Akamai virtual hostname and 9 o'clock comes. The whole company at Akamai is there, seeing if it's going to work. Our investors were there. And 9 o'clock comes and it's working great. We're delivering copies of the Star Wars trailer to everybody who asks for it.

And then we noticed that the other Websites that had it, including Apple, had all crashed. So, they all got hit with a flash crowd. They all went down and now we're the only ones left standing, or Entertainment Tonight is only site left standing that has the Star Wars trailer, and that meant you had an even bigger flash crowd and we got a lot of attention.

In fact, somebody from CNN was keeping track of the [83] big news around the Star Wars trailer and noticed that all the sites went down, but one. What were they doing at Entertainment Tonight? And they went and looked at the URL and saw this Akamai thing, you know, that the hostname was changed. What's Akamai? And he investigated some more and he found out about us and he wrote a story about it and that got us attention.

Q. You told us that the Apple site crashed. Did you hear from Apple?

A. Yes. Apple also noticed that Entertainment Tonight was up when Apple had gone down. They also noticed that the hostname was not an Entertainment Tonight hostname, was this Akamai thing, and they investigated and a couple of days later two Apple executives came to visit us to find out, Okay, what are you guys doing? How does this work? And we explained it. And then two weeks later, on April 1st, Steve Jobs called.

Q. Who is Steve Jobs?

A. He's the CEO at Apple. And he said, I want to buy your company and —

Q. Did you sell?

A. No. We were very flattered that Steve Jobs called. This was huge. Even better, he wants to buy us. He likes what we're doing, but we said no, that we're in business to serve content for lots of Websites, [84] not just Apple, but it led to a very good relationship with Apple. Apple became our first corporate investor. They bought stock in the company, and we've worked very closely with them ever since, and that's why today, when you get songs

from iTunes, there's being served by an Akamai server.

Q. Now, the content that you delivered in these two instances, was that a static picture or just a logo?

A. No. Those were videos being sent.

Q. And Mr. Krupka said yesterday in his opening that — he distinguished between what he called embedded objects in the page, on the one hand, and video and songs or audio stuff, on the other hand.

What did you deliver in those very first deliveries?

A. All of the above. The solution was designed to handle video. That's the whole point. Video is the hardest thing to do because it's the biggest objects with the most data. And, so —

Q. Sorry. While we're at it, tell us what an embedded object is.

A. Well, we could go right to the patent and it's defined pretty clearly there. An embedded object is — it could be a picture, could be a —

Q. Wait. Wait. Wait. Let's go to the patent before [85] you get there.

MR. FRANK: Could we have Column 5, Line 23 through 25.

Q. Now, it says there, "As seen in Figure 2, a typical Web page comprises, includes, a Markup Language Master." It says "HTML." What's that?

A. That's what I showed before for both Fluffy's site and Wal-Mart. Those are the computer instructions that make your screen, show the text and get — gets stuff for you.

Q. It says, "or base document." What's that?

A. That's the same thing.

Q. "And many embedded objects," and then there are examples of those embedded objects. What are those examples, Dr. Leighton?

A. Well, images, audio and video, for example.

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UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

JURY TRIAL
Day 3, Sessions 1 and 2
February 13, 2008

* * *

[6]

* * *

Q. How many customers did you have by the end of 1999?

A. We had two hundred customers by the end of 1999.

Q. And did you get additional customers in 2000?

A. Yes. We grew quickly and had over a thousand new customers added in 2000.

Q. At that time, that is up through 2000, had you done any work for the United States government?

A. Not yet.

Q. Did there come a time when you did do some work for the United States government?

A. Yes, in mid-2001.

Q. What happened?

A. In mid-2001, a computer virus known as "Code Red" was released into the Internet. And "Code Red" was designed to attack the White House. It infected about a quarter million machines, people's machines at home or at work, and it was designed to have those machines go to the White House at a specific point in time about a week later and do a denial service attack, which means it's requesting lots of content from the White House, which would flood out the White House's Internet infrastructure.

Q. And — sorry.

[7]

A. The White House figured out this was happening. They already somehow, they found out about Akamai, and they called us up. And they said can you help. And I realized what was happening with "Code Red" was that it was really like a large flash crowd, just computer generated, and it was not human, in the White House website, but it was computer generated, and our system should be able to help that. So we said, yes, we could help.

Q. So what you did do?

A. We explained to them how to use our services. They did the same process as the other websites. And the attack came right on schedule, and we delivered all that traffic to the infected machines, and the White House was spared any problems.

Q. Did that get any public notice?

A. It got a lot of public notice. There was a lot of articles written about the "Code Red" and attack on the White House, but Akamai did not get public notice for that.

MR. FRANK: Could we have Leighton Exhibit 47, please.

Q. What is this, Dr. Leighton?

A. This was an article that was written afterwards in USA Today about the "Code Red" virus explaining that the [8] White House had done something to avoid it.

MR. FRANK: Could we see the very bottom paragraph on that?

Q. Tell us what was said about how you dealt with the problem.

A. Well, this doesn't — the article doesn't say who solved the problem for the White House, just that the White House said that they averted the attack.

MR. FRANK: I'm sorry, I should have asked for the fifth paragraph.

Q. And so, you said that — now, did there come a time when you got additional government work?

A. Yes.

THE COURT: Is all of this relevant?

MR. FRANK: Yes, your Honor. It goes absolutely to the success of the invention, unless, of course, Limelight wants to —

THE COURT: No, no, no. But how much more do you have with this witness?

MR. FRANK: Ten minutes.

THE COURT: Okay.

Q. Dr. Leighton, did you give some additional — did there come a time when you got additional government work?

A. Yes. We got many more government customers on [9] September 11, 2001. During the day of the attacks, many government websites were also

attacked. The FBI site was brought down, in part by lots of people trying to go there to get information about what had happened, but also by denial of service attacks, that people were trying to disrupt government communications.

By that time the government knew about Akamai, and they approached us, and that day we were able to bring back up numerous government websites.

Q. You testified that you started on this project in 1995. When did your work result in the first dollar of revenue?

A. 1999.

Q. And was Akamai profitable in 1999?

A. No.

Q. So, I think I understand, you went four years before you got a dollar of revenue. How long did you go before there was a profit earned on this invention?

A. It took us nine years, until 2004.

Q. And you said that the first dollar was in 1999. How much revenue did Akamai receive using this invention in 2007?

A. Over six hundred million dollars.

Q. Is Akamai now profitable?

A. Yes.

[10]

Q. And has Akamai — if one were to compare Akamai's losses in the early years to Akamai's profits in more recent years, which one is greater?

A. We're still behind. So, our net losses lifetime exceed our net profits.

Q. Do you have an expectation of when you'll get to even?

A. If things go well, we're hoping that next year we'll break even.

Q. Was this a steady rise to profitability from 1999 to 2007?

A. No, certainly not.

Q. Was there something that caused it not to be a steady rise?

A. Yes. We grew very quickly the first couple of years, but then came the burst of the Internet bubble, the dot-com meltdowns. We lost a lot of our customers. We almost went broke. We had a few months to live. We had to lay off most of the company. We had a very difficult time getting new customers. Among other things, they could see we were about to go broke. People wrote stories about us about to go under. It was an extremely difficult time.

We managed to get through that and then get to another period where we can now grow and grow [11] profitably.

Q. Was there a strategy that you adopted after the dot-com failure?

A. Yes. We had to get a new customer base. So, we went after the major companies, the Fortune 2000 companies, because they were obviously going to be around. They were going to have to use the Internet. So we went after them and the big media companies.

Q. And what result did you have with respect to that end?

A. We are now to the point where we have substantial success.

MR. FRANK: Could we have Leighton demonstrative 42?

Q. What is this, Dr. Leighton?

A. These are some of our customers today. In the upper left, all the major sports leagues use us today to distribute their content, their videos.

In the center of the top, all the major networks and media companies. Many networks in the top right use us today.

Working down on the right, a lot of the major car companies use us. Moving left, many government websites, including all of the military portals, the Army, the Marines, the Navy, Air Force, use us.

[12]

Moving left, big search engines all use us, and several of the big social networking companies. Left, the big product manufacturers. Going down, food companies, and across, big software providers. Then the bottom right, the e-commerce like eBay, Amazon.

Q. Using the inventions that you described to us, how many Internet users get content, songs, video pictures, from Akamai every day?

A. We estimate about a billion people get content from Akamai every day.

Q. And using those inventions, how many individual pieces of content, movies, videos, so on, does Akamai deliver in a single day?

A. Over two hundred billion deliveries a day.

Q. How many in a year?

A. Over fifty trillion in a year.

Q. If I were to imagine that I could deliver one of these objects every second, how long would it take me to deliver fifty trillion objects?

A. Over a million years.

Q. Is the Akamai system today the same as the Akamai system that existed back in 1999?

A. Yes and no. Yes, in that at its core we're still using the invention the same as we did in 1999. It's the center of most everything that we do.

[13]

No in that we've come up with a lot of additional capabilities to deliver better to our customers.

Q. How much do you spend on R&D every year?

A. Last year we spent over fifty million dollars on research and development.

Q. Has your invention helped the providers of content, Akamai's customers?

A. Yes.

Q. How?

A. We make their websites be faster, more reliable, they can handle flash traps now. That helps them do their business.

For example, eBay and Amazon, Walmart, they are making more money now with their websites because it's a faster experience for you. When that website is faster, you do more business on it, on average.

For example, if you go to the military portals, for example, the Army, they're not trying to make money there, but we had an example where it was taking eight hours for the troops to download helicopter parts manuals in Europe. By using Akamai, they could do that in a matter of minutes. So it makes a substantial difference to them, even though they're not making more money.

* * *

[65]

* * *

Q. Dr. Leighton, would you tell us again what was the central idea of the invention?

A. Yes. The key innovation that we talked about yesterday is that you change the hostname of an object, [66] like Fluffy, or a video or whatever it might be, to become a CDN virtual hostname. And that CDN virtual hostname has a few properties. It points to the content delivery network. It might have information about the object so that we can hand out on the right servers, and it corresponds to a dynamically changing server.

So, at any point in time we can deliver to the end user the Internet addresses of servers that are close to them, preferably likely to have the object, and not overload it.

Q. And you were asking were you the first to do this and the first to do that. Had any anyone anywhere come up with the combination of using that CDN virtual hostname and an intelligent DNS in a content delivery network?

A. Not to my knowledge.

* * *

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

JURY TRIAL
Day 5, Session 1
February 15, 2008

* * *

[37]

* * *

Q. And when the customer decides it wants Limelight to serve an embedded object of their page, it is the customer that puts the URL into the object; is that right?

A. Right. We showed the instructions that Limelight gives its customers on how to do that.

Q. Well, but the customer is the one responsible for putting the URL to the page, correct?

A. If the customer wants the page served, it has to follow Limelight's instructions. Certainly, the customer can choose not to have Limelight serve the content, but if it wants Limelight to serve the content, [38] it has to follow the instructions that Limelight has given them.

* * *

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

JURY TRIAL
DAY EIGHT – FIRST SESSION
[February 21, 2008]

* * *

[5]

PROCEEDINGS

(The following proceedings were held in open court before the Honorable Rya W. Zobel, United States District Judge, United States District Court, District of Massachusetts, at the John J. Moakley United States Courthouse, 1 Courthouse Way, Boston, Massachusetts, on February 21, 2008.)

(Jury enters courtroom.)

THE COURT: Good morning.

Please be seated.

Mr. Gordon, you understand that you are still under oath, right?

MR. GORDON: Yes, ma'am.

THE COURT: You may proceed.

MR. McKINNON: Thank you, your Honor.

MICHAEL GORDON, PREVIOUSLY SWORN.

CONTINUED DIRECT EXAMINATION

BY MR. McKINNON:

Q. Mr. Gordon, yesterday we briefly talked about your background. Today I'd like to go to the summer of 2001. Why did you decide to start a Content Delivery Network company at that time?

A. Well, you know, when you think back to the spring of 2001, the situation — the business of the Internet was in a pretty bleak situation. The Internet bubble [6] had bust. Dot coms were going out of business left and right. High-speed Internet providers were filing bankruptcy one after another. The whole industry was really in a free-fall.

THE COURT: I'm sorry. When was that?

THE WITNESS: The spring of 2001.

THE COURT: Thank you.

A. (Continuing) And that caused a lot of people to sort of wonder whether the whole Internet phenomena had really just been a fad, had just been a lot of hype. And as my partners and I looked at that, we thought, you know, high-speed Internet is going to happen. It may not happen as fast as the — sort of the wilder estimates had said it would, but it was going to happen.

And as it did, what users would want from the Internet would change. They wouldn't just want faster e-mail. They would want to use the Internet to listen to music and to watch videos, to whole television shows and movies and to download and play games, and as we thought about that, as we looked around. We thought, you know, no one has really

designed and built an infrastructure to do that. And so, we thought we would give it a try.

Q. Was there anything happening with regard to the [7] economics of providing content over the Internet which made you think this was a good time to start?

A. Yes, there were two things:

First of all, the general trend in the technology industry in general over its long history has been that every year, most technology products and services get less expensive. You either pay less for the same thing you bought last year or you get more for the same dollars that you're paying.

So, we thought that a lot of the costs involved in delivering this kind of content on the Internet were going to decline over time at a fairly predictable pace, fairly rapidly.

The other thing was that because of all this stress in the industry, you know, you could go out and negotiate pretty good deals on things. You could buy equipment used, and you could negotiate, you know, pretty attractive business arrangements with telecom companies and Internet service providers.

Q. Well, based on all this information and your thought process as you were going through, what was the basic approach you arrived at in terms of designing a Content Delivery Network?

A. So, while it was true that a lot of things about what users wanted were going to change, we believe that [8] two things would not change:

The first is that users would still want from the Internet what they would always wanted, which is everything. It's the things I'm interested in particularly that suit me, what I want, when I want it.

The other thing that we thought would not change and is what users expected from media. When I play a song on my stereo, it starts as soon as I push play and it plays continuously. When I watch a video on my television set, it starts as soon I push play or turn the TV set on and turn to the channel, it plays continuously. It doesn't start and freeze up and stutter and stop.

When you combine those two ideas, you sort of get to a point where — at least the way we thought about it was for every song, for every video, for every game, whether it was the most popular, or whether it was something only interesting to a couple of folks, it had to start as soon as you push play. It had to play continuously. It had to be a media experience.

So, that was the basic idea that we sort of focused on, and when you think about it in those terms, what you realize, at least our point of view was, you can't — from a technical standpoint, you can't be in the business of making trade-offs. You're either [9] sacrificing one of the things you need for another or taking something away from one user to give it to another. You have to have enough stuff. You have to have enough computers. You have to have enough storage. You have to have enough Internet bandwidth. You have to have enough speed to move things around fast enough because, otherwise somebody in this process is not going to get what they want when they push play.

So, that was our basic idea. Instead of trying to optimize scarce resources, instead of trying to trade one thing off against another or one user off against another, we're doing to build a system that has a lot of everything. We're going to make sure — our idea is going to be that at all times we have enough stuff, more than enough stuff.

Q. How did that get reflected in the actual Content Delivery Network you developed and eventually implemented?

A. Well, that was our basic idea all along. So, what you see today is a network that has massive resources at each location, hundreds and hundreds of servers instead of just a few. A global network with an optimal network that can move things around very, very rapidly, and at each of those locations, lots and lots of networks, many connections directly to the access networks that users [10] use and many connections to the Internet, lots of bandwidth.

MR. MacKINNON: Mr. Guillory, would you please put on the screen Demonstrative 101, please.

Q. And, Mr. Gordon, using this demonstrative, could you briefly explain that approach in a little more detail.

A. Sure. So, as we see, the basic idea, again, to deliver media content, music, video, games, what we now call Social Media, very different from the way all of the early CDNs were thinking about it in terms of the technical — the technology infrastructure.

We rely on standard Internet things, like Internet routing and Internet domain name services. We have at each of our locations, as I said, hundreds and hundreds of servers, lots of network connections, lots of bandwidth to the Internet and to user's access networks. It's all interconnected by a backbone, and it is driven by human engineering. Instead of trying to sort of out-guess the rest of the Internet, we have — we rely on humans to make decisions to use their own insights.

Today we have 16 points of presence around the world, 15 of them from which we actually deliver content, plus our location in Phoenix, and in every

one [11] of our locations, we have more than 100 servers and most of them we have several hundred servers. In our largest we have just short of a thousand servers in that single location.

MR. MacKINNON: You can take that down.

Thank you, Mr. Guillory.

Q. Well, when you started doing business in the summer of 2001, did you have all of those things that were just shown on the slide, fiber optic backbone, 16 POPS, and all of those particular elements?

A. No. We had a — we had a dream or a vision for that, but we certainly didn't have all of that.

Q. What did you have in place when you first got started?

A. Well, Nathan likes to say — one of my partners. Our CTO likes to say we had three servers, but, actually, we — when we first started, we had the single location. It was in San Jose, with, I think, 20 or 25 servers, and then fairly shortly after that we put in a second location in New York, again, with 20 or 25 servers, and for quite a while, they had just those two locations.

Q. If we go forward two or three years to 2004, what was the state of your network at that time?

A. By 2004, we had, if memory serves me correctly, [12] five locations in the United States. We had added Los Angeles on the West Coast, Washington, D.C. on the East Coast, and either Dallas or Chicago. I think it was Dallas, in the center of the country. And then we had our first location outside of the United States. We had a location in London.

Also by 2004, we had actually built a backbone network. So, all of those locations were connected

with an optical network, so we could move things around really fast.

Q. By 2004, had customers purchased your services?

A. Yes. We had two or 300 customers by that point in time, if I recall correctly.

Q. Did you have any important customers or major customers at that time?

A. We did. Very early in our — in the development of our company, we had signed Music Match, which at the time we signed it and as of 2004, still was the largest Internet music service. You could download a little player to your PC and pick a genre and it would stream music to you.

We also had the Rhapsody Music Service, which is still today a very large music service on the Internet. In 2004 we had Arrangement Free Virgin, which was Richard Branson's music service, ABC radio. So, a whole [13] host of really well-known customers by then.

Q. Let's now jump forward to the present, so we can talk about the current Content Delivery Network that you have, and we'll come back to 2004 later in the examination, but let's focus now on what you're doing currently.

First of all, could you give an overview of the major elements of your current system, please.

A. Yes. We have 16 points of presence around the world. Outside of the U.S., major locations are in Tokyo and Hong Kong, and in Europe in London, Amsterdam, Paris and Frankfurt, Germany, and we have nine locations in the United States. The ones I've mentioned, plus Seattle, Miami, Atlanta, and then the other one, Dallas or Chicago, whichever one

we didn't have in 2004. It's all connected by optical network.

MR. MacKINNON: Mr. Guillory, would you please put Demonstrative 28 on the screen, please.

Q. What does that show, Mr. Gordon?

A. That's a graphic preparation of our network. We actually might have added a location in Singapore since we've been here this last few weeks, but that's sort of where it is today.

MR. MacKINNON: Could we next see Demonstrative 29, please, Mr. Guillory.

[14]

Q. What does that show us, Mr. Gordon?

A. This shows us our U.S. network. So, what you see here are our nine locations in the U.S, which I mentioned, from which we do delivery, plus Phoenix, which is — which we don't do delivery from, all connected by the optical network.

Q. The yellow boxes that are on Demonstrative 29, what are they?

A. Those are our actual delivery locations. That's where users connect to get content.

Q. Is there a name that we use for those?

A. Well, the term is point of presence, and it's often shortened to POP, P-O-P.

Q. And what's contained, generally speaking, in each of those yellow boxes, those POPS?

A. We have — in each of those we'll have routers, which connect the location to our backbone and to the Internet. We'll have DNS servers, which resolve hostname, and we will have content servers which users can use to actually get the content that they're looking for.

MR. MacKINNON: Can we please see Demonstrative 105, please.

Q. What does this illustrate for us Mr. Gordon?

A. So, this shows us — this is Miami, and as you see [15] there, we have the optical network comes into Miami, content servers that users connect to, name servers, all attached by the router to our backbone in the Internet.

Q. Now, I noted on the prior —

THE COURT: Excuse me.

When you say "backbone," are you referring to the optical cables?

THE WITNESS: Yes, I'm referring to our optical Internet, which we own, which is separate. It's a separate physical infrastructure from the rest of the Internet, but all of which what we do is part of the Internet.

THE COURT: But that's what you mean by "backbone"?

THE WITNESS: Correct. When I talk about "our backbone," that means our network.

Q. Mr. Gordon, how many POPS did you say you had in the United States?

A. We have nine POPS that we do delivery from.

Q. Why hasn't Limelight established hundreds of POPS throughout the United States?

A. Well, a couple of reasons. First of all, it would be really, really expensive to run a network of your own into all those POPS. You could connect them to the Internet, but to actually have your own optical network [16] that connected up hundreds of locations would be very expensive, cost prohibitive. And, also, it would be really expensive to have hundreds or

close to a thousand servers at each of hundreds of locations. That's just not our model.

Q. The Court asked you a question about the fiber optic backbone and the optical network. Do all Content Delivery Networks have their POPS connected by their own optical backbone?

A. No. It's pretty unusual. We were the first one to do it, the only one until probably the last few months. Now Level 3 is talking about having done it.

Q. Why did you choose to do that?

A. Well, our thinking was that it would be important — and this is proven to be correct. That it would be important to be able to move things around at the speed of light. So, if a user has requested a particular content object from one of our locations and we don't have it, we want to be able to move it there at the speed of light rather than send the user to someplace farther away.

Q. Now, on Demonstrative 105, beneath the boxes for the servers, there is a — there's a number there. What is that?

A. That number is the Internet protocol IP address, [17] the actual IP address of one of our name servers in Miami.

Q. When you say "name servers," which of those boxes is the name server?

A. I'm sorry. The name server is the box that says "DNS servers."

Q. What does "DNS" stand for?

A. Domain Name System.

MR. MacKINNON: Mr. Guillory, could we see Demonstrative 106, please.

Q. And what does this show, Mr. Gordon?

A. This is the same level view, same level of detail of our location, our POP, in Atlanta. So, what you see, again, is our router. This time it's actually connected to the optical network going in three directions, because that's how the network is actually built into Atlanta. It's built in from north and south and from the west. And then you see the DNS servers and the content servers.

Q. And is that an lP address again on — for this POP?

A. Yes, that's an actual IP address on one of the name servers in Atlanta.

Q. Now, the number that we see here for Atlanta, is that the same number we saw for Miami?

A. Yes, it's the same number.

[18]

Q. Is that intentional?

A. That's deliberate.

Q. And is that true for all of the POPS in the United States?

A. Yes, that all of our — that all of our POPS in the United States, each of the name servers — well, there are name servers with the same number at each of those locations.

MR. MacKINNON: Can we look at Demonstrative 107 please.

Q. Does that show us all of the POPS in the United States?

A. Yes. So, here we have the nine delivery POPS, plus, of course, Phoenix, but the nine delivery POPS, the same level of detail. You can see the network, the routers, the DNS servers, and the content servers, and you can see there we have the same IP address on a name serve in each of those nine locations.

Q. Is there a name for this numbering scheme where you use the same IP address on different physical machines through the Internet?

A. Yes. When you number machines with the same IP address and announce that IP address to the rest of the Internet from multiple locations, that's called "Anycast."

[19]

Q. Is that something Limelight created?

A. No. Anycast has been around since, I believe, 1993.

Q. And why does Limelight use Anycast?

A. Well, what we are doing here is telling the rest of the Internet that you can — that I'm Limelight and you can find me here. It's kind of the same notion that — you know, Target puts the word "Target" in the red bull's-eye on each of their stores, so that people know where target is, and this let's folks — other folks on the Internet know that Limelight is there.

Q. Does Limelight pick a particular name server to receive a name resolution request from a user?

A. No, we do not. The Internet routes them to us.

Q. Does Limelight pick one of these yellow boxes, one of these particular POPS, to receive a name resolution request from a user?

A. No. The Internet routers route the packets to whichever location. That's just the way the Internet works. They send it wherever they want to send it.

Q. Has Limelight ever made public statements in marketing materials and to customers that user requests are routed to Limelight servers that are closest to the user?

A. Yes, we have.

[20]

Q. What's the basis for those statements?

A. Well, as a general matter, Internet routers generally do that.

Q. Is that what the Internet does?

A. That's exactly what the Internet does. It's the way the routing protocols and Internet routers work. So, over lots of requests over a period of time, most of those requests will go to whichever Limelight location the other routers on the Internet decide is technically the shortest path to it, but that would mean the closest location.

THE COURT: Mr. Gordon, is it correct that not all of the POPS are able to provide, at least initially, whatever the user may want? That is, not each of the POPS has available right then and there what the user wants?

THE WITNESS: That is true.

THE COURT: And as I understand it, in the Akamai system, the user is then directed to another server that will have it; is that right?

THE WITNESS: That's how I understand it, yes.

THE COURT: And in your system, I think you said before, is that you arrange for the content to come to the server or to the POP where the user is; is that [21] correct?

THE WITNESS: That's exactly correct.

THE COURT: So, you don't send the user away; you send the material to the user?

THE WITNESS: That's correct.

Q. Is it technically accurate, Mr. Garden, to say that user resolution requests are always routed to the closest Limelight server?

A. Is it — it's not technically correct to say that, no.

Q. Why not?

A. Well, the routers that run on the Internet contain technical rules, but they can also — the owners of those routers can also add business rules to those routers, and sometimes a network operator will have a business reason that they want traffic to flow differently than just the pure technical rules would say it should flow. So, you know, an engineer would say that that's not — that technically it's not always the closest location.

Q. I would like to talk a little bit now about the name servers that you talked — you mentioned, the DNS servers on this diagram. What type of software runs on Limelight's name servers?

A. We run a software program called Bind.

[22]

Q. What is Bind?

A. Bind is standard DNS software that runs on the vast majority of name servers on the Internet.

Q. Is Bind something that Limelight developed?

A. No. It's open-source software that we downloaded from the University of California, Berkeley.

Q. What does "open source" mean?

A. "Open source" means that — that as long as you conform to some limitations about redistribution, that you can — you're free to download the software without paying for it, to modify it, and pretty much use it any way you want in your company.

Q. Does Limelight have two levels of name servers?

A. No, we do not.

Q. How many levels of name servers do you have?

A. We have one level of name servers.

Q. After a name resolution request is routed to a Limelight name server, what does the name server do?

A. It looks up the hostname in that resolution request in what's called the zone file, which is a collection of hostname and IP addresses, and it returns the addresses to the zone file for that — that are in the zone file for that hostname.

Q. You mentioned "zone file." Is zone file something that that's unique to Limelight?

[23]

A. No. A zone file is a common concept on the Internet. And certainly Bind depends on this idea. It's part of Bind.

MR. MacKINNON: Mr. Guillory, could we look at Demonstrative 161.5, please.

Q. Mr. Gordon, does this, at least on a very general level, reflect the concept of a zone file?

A. At a very high level this would reflect the idea of a zone file. It's basically just a list of IP addresses. Actually, what we would need on this slide would be some hostnames that correspond to one or more of those IP addresses, but it — at a very high level, this is what a zone file is, just a list of IP addresses.

THE COURT: What is it on a low level?

THE WITNESS: Well, it's not that it's —

THE COURT: I don't understand the "high level" language, which has occurred several times in the course of the trial. What does "high level" mean?

THE WITNESS: I'm sorry, your Honor. Actually, what I meant to say is that it's missing something. On this particular slide we don't actually

have any hostnames. A zone file would actually have a hostname, like customer.vo.lnwd.net, and then certain of these IP addresses that are going to correspond to that [24] hostname, and then another hostname and certain of those IP addresses that correspond to that, and another hostname and certain IP addresses that correspond to that.

THE COURT: So, "high level" means basic?

THE WITNESS: Basic. I'll try to keep that in mind.

THE COURT: Well, no. I'm asking.

THE WITNESS: Yes. With the way I was using it, it means basic, yes.

THE COURT: Okay.

Q. Mr. Gordon, I believe you said that the zone file goes into the DNS server. What is returned to the user?

A. What's returned to the user is a list of IP addresses from the zone file.

Q. How many IP addresses in the Limelight system can be returned to the user for a single DNS resolution request?

A. In the U.S. that number is 16. It will return no more than 16. It will return less if we don't have 16, but we won't return any more than 16.

Q. Why is 16 a limit?

A. Well, as you put IP addresses into the answer that's going back to the user, it gets bigger and bigger as you put more and more IP addresses into it, just in [25] terms of the data size of the packet, and if it gets too big, some of the other pieces of equipment out there on the Internet, things like routers and fire walls, either — will either block a packet that's too big or they'll mishandle it in some respect. So, by

keeping the number to a smaller — to some limit, we solve that sort of problem with the packet, the answer, just not getting back.

Q. If there's a maximum of 16 IP addresses that can go back to the user, does that mean that the zone file, the input to the DNS server, is also limited to 16 IP addresses for a particular hostname?

A. No. The zone file can have as many IP addresses for each hostname as you would like.

Q. How is the number — assuming you have more than 16 IP addresses in your zone file, how does Limelight then reduce that to the 16 that are returned to the user?

A. Well, what we do is we let round-robin — let Bind do it's normal round-robin process, and then we just take the first 16 off of its list, off the list it creates that time and send those back.

Q. What is round-robin?

A. Round-robin means basically moving the order of the list by one — by one — the number at the top goes to the bottom, and then each time you revolve around it.

[26]

MR. MacKINNON: Mr. Guillory, could we look at Demonstrative 151, please.

Q. Mr. Gordon, does this help us — or does this help you explain round-robin?

A. Yes.

THE COURT: At a high level?

THE WITNESS: At a — actually, round-robin is very basic.

Q. Could you go ahead and tell us how round-robin works using this demonstrative, please.

A. Yes. So, what we're going to see — what we see here is in this example 30 IP addresses that are related to a given hostname, and the first 16 on that list are what we're going to return to the user.

Now, if we then get a second resolution of that hostname, Bind is going to rotate the list and we're going to return the first 16 off of the newly-rotated list. And so, the second resolution would be servers 2 through 17, and then if we have a third resolution, Bind is going to rotate the list by one again. We're going to return the first 16. So, we'll return 3 through 7 — 3 through 18, and then you just continue through that process and work your way through the list progressively.

Q. Is round-robin a standard feature of Bind?

[27]

A. Yes. It's default behavior of Bind.

Q. What does that mean?

A. That means that's how it does it out of the box.

Q. If there are 16 servers then returned to the user, does Limelight know which of these 16 server addresses the user will actually pick?

A. We don't. Most user devices will chose the first server on the list, but that's not true of all devices, and we have no control over which one they choose.

MR. MacKINNON: Mr. Guillory, could you please put Demonstrative 117 on the screen, please.

Q. And, Mr. Gordon, could you use this demonstrative to explain the process of how round-robin would return the servers to the user.

A. Yes.

THE WITNESS: Could I approach the . . .

THE COURT: Yes.

MR. KRUPKA: Keep your voice up.

(Witness approaches screen.)

A. So, what we see here is our 30 servers in the server list in the zone file associated to a particular hostname. And the first thing that's going to happen is — oh, and here we have the 30 content servers that are associated with each of those numbers.

The first thing that's going to happen is the user [28] is going to request a resolution of the hostname. That request, we're going to — Bind is going to give us is going to give us the list of 30, order 1 through 30. We're going to select the first 16 and send those back to the user.

The user's device is now going to choose one of those, typically the first one on the list, and use that IP address to send its request for content to. So, we'll see the user's device choose Server No. 1. Sends a request for content to Server No. 1, and get the content back.

MR. KRUPKA: It already did it.

THE WITNESS: Did it already do it? Well, I was looking out. Okay.

A. (Continuing) The second user comes along and requests an IP address. Bind has rotated the list. So, now it's ordered 2 through 30 and No. 1 is at the bottom. We take the first 16. So, 2 through 17. Send them back to the user. The user's PC will again usually choose the top one on the list. So that's what we've shown, but it could be any of them, and requests the content this time from Server No. 2.

As Users No. 3 and 4 come in, the same process is going to repeat each time. Bind is going to rotate the list by one. We're going to select the first 16 and [29]

send them back. The user's device is going to pick one of the 16, typically the first one, but not always, and make a request for the content to that server.

(Witness resumes witness stand.)

Q. Mr. Gordon, the example you just went through, there were 30 IP addresses in the zone file for that particular hostname. Does the same principle apply if we're dealing with a zone file for a hostname where there are 16 or fewer IP addresses in the zone file?

A. Yes, the same principle applies. The only difference being that since there's fewer than 16, all of the IP addresses will get returned each time, but they'll be placed in a different order each time that they're returned. Bind will do that, and we'll just send back that list to the users — to the user.

Q. I'm going to ask you right now, sir, a series of questions about the ordering of the IP addresses in the zone file for particular hostnames that Limelight uses and whether or not the ordering or the resolution is affected by certain factors.

Is the list of servers sent to the users by Limelight put in any order based on the load on the servers?

A. No, it's not. Bind doesn't know anything about the load on the individual servers.

[30]

Q. So, for example, is the list of IP addresses returned to the user ordered such that the servers with the least load are at the top of the list?

A. No. Bind doesn't have that information.

Q. Does Limelight put the list of servers that are sent to the user in order, so that those most likely to have the content are at the top of the list?

A. No. The name server doesn't know what content is in — what particular continue is in the server.

Q. At the time that Limelight is doing this DNS resolution, sending IP addresses back to its users, does Limelight know what particular content the user is even asking for?

A. No. There's no information in the hostname that would give us any clue what specific content object the customer — the specific user is looking for. The hostname is specific to the — to our customer, to ABC, or to Facebook, but it doesn't have any information about whether those are photographs or videos or anything like that.

Q. Is there different type of content or different particular content selections that all come from the same hostname?

A. There are as many that come from the hostname as the customer wants to serve from that hostname. The [31] only thing the hostname tells us other than the customer is what the format of the server is, whether it's a Web server or a Windows Media server or a Quicktime server.

Q. Does Limelight put the list of servers sent back to the user in an order based on network conditions?

A. No. The DNS servers don't know anything about network conditions.

Q. Does Limelight's DNS servers place the user — the content server addresses in any particular order based on user location?

A. No. The DNS server — the DNS server knows the IP address to which it's going to send back the answer, but it doesn't know anything about the location of the user out in the greater Internet.

MR. MacKINNON: Mr. Guillory, if we could look at Demonstrative 104, please, which is . . .

Q. Is this a summary, Mr. Gordon, of some of the things you just testified to?

A. Yes, it is.

Q. Now, the last point with regard to user location, does Limelight know an IP address in order to send this list of potential content servers back to the user?

A. Yes, we know the — we know an IP address. We have to have some place to send the response back to.

Q. Well, how is that — is that IP address at all [32] considered or used in determining what the list of content servers is that you're going to send back?

A. No. The IP address — we have to have the IP address so we know where to send it back, but we don't know anything about where the user is or where we're — or where that IP address is in the Internet.

It's helpful to think about this sort of like a cell phone. I have to know my wife's cell phone number to call her, but when I call her cell phone number, I have no idea where she is. She could be home in Phoenix. She could — well, hopefully, she's home in Phoenix, but I don't know anything about where she is.

MR. MacKINNON: Thank you, Mr. Guillory.

THE COURT: There is a question.

JUROR: Excuse me.

A certain selection, if I understood properly, has already taken place, though, in the user being routed to a particular DNS server?

THE WITNESS: The Internet has routed the request to one of our locations. And so, the server at that — the DNS server at that location is going to respond to that request, that is correct.

JUROR: And The zone file that it's providing is a list of its own content servers at that POP?

[33]

THE WITNESS: It's a list of its content servers at that POP, unless this is a format that we don't have at that POP, which is primarily Quicktime and Real, in which case it will be a list of servers from another POP.

JUROR: So, a certain amount of question in proximity has already been set up by the Internet in terms of where the user has been routed to the DNS server?

THE WITNESS: That is the way the Internet works. I mean, it makes routing decisions and tries to send things efficiently and it will send packets to Limelight where it deems best.

JUROR: Thank you.

THE COURT: Let's stretch.

(Stretch break.)

Q. Mr. Gordon, does the number of servers in a zone file vary with the particular hostname that's involved?

A. Yes, different hostnames can have different numbers of servers associated with them.

Q. Can you give examples of that, please.

A. Well, for example, CNN, who is a customer of ours, we currently have 30 servers associated with CNN's hostname in our zone files.

Q. And are there other hostnames that have more or [34] less servers associated with them than 30?

A. I'm sorry. Yes, there are servers that have — there are customers that have more than 30 servers per location, and there are, many, many, many customers who have fewer than 30 servers.

Q. Is there anything at Limelight that automatically sets the number of servers in a zone file for a particular hostname?

A. Well, we automatically set that number to one, but if it's going to be different than one, then an engineer has to make a change, has to type a different number on a keyboard to configure the zone files differently.

Q. Where are those engineers located to do that?

A. They're in Phoenix.

Q. Is there anything at Limelight that automatically changes the number of servers for a hostname based on some sort of changing conditions at the server, the content server?

A. No, there's not. If —

Q. How — sorry.

A. If we need to increase or decrease the number of servers for a particular hostname in the zone file, we have to make that change by hand.

Q. If we look geographically from one POP to another as you go around the United States, is the number of [35] content servers in a zone file for a particular hostname the same from POP to POP to POP?

A. Yes, the number of servers in the zone file for each hostname is the same at each of our locations, with two rare exceptions:

One is if we are dedicating servers to that customer and that customer only, in which case it might vary a little, but then they wouldn't be shared.

The other exception is if the number is so high, that at some of the POPS, we don't have that many. So, if we had a customer configured for a 100 servers for Windows Media — in Atlanta I believe we have 20 or 30 Windows Media Servers — that's all that can be in there in Atlanta because it doesn't have a 100. So, in that case, also, you might see some variance, but those are both very rare cases. For the vast, vast majority of our customers, the number of servers in the zone file from location to location will be the same.

MR. MacKINNON: Mr. Guillory, could we please look at Demonstrative 137, please.

Q. What does this show, Mr. Gordon?

A. Well, this shows us how CNN is actually configured. So, we set the number in Phoenix. We set the number for CNN's hostname at 30, and that means that there are 30 in Seattle, 30 servers in Chicago, et [36] cetera, et cetera. At all nine of our locations in the United States, there will be 30 servers associated with CNN's hostname in our zone files.

Q. Does Limelight expect to see the same number of requests per minute to the CNN hostname, an equal number in all these different locations?

A. No. The amount of traffic that the Internet, in general, sends us varies very dramatically from location to location. And then in addition to that, many of our customers have very — have very, very different traffic from location to location.

Q. If the number of requests per minute are going to change as we go from POP to POP, why don't you tailor the number of servers at that POP to reflect the expected usage?

A. Well, remember, the basic idea at Limelight is to have lots of stuff. And so, if you — this number will be set based on what we think is a pretty big number, well more than enough, for the POP that's going to get the most requests for CNN. I'm not sure which one that is. It might be New York, let's say, or — let's say, Washington because they have an election going on.

So, by setting the — so, we set the number based on the maximum amount you can get at the busiest POP. By using that same number at all of the other POPs, that [37] means we've built in a whole all of redundancy. If the whole level of requests in Seattle is a third of what we see in Washington, then in Seattle we're going have three times as much as we would normally expect to need.

And this idea of massive provisioning of having a lot more on hand than we need or anticipate needing is very fundamental to how we think about how we want to set up our infrastructure.

Q. If we look, for example, at the Chicago POP, where there are 30 content servers associated with the hostname CNN there, in the regular operation of your network, is it possible that some of those content servers would have a particular object on them and others would not?

A. Very definitely.

Q. Is that just a theoretical possibility or is that real-world how it actually works?

A. No. That is how it actually works in the real world, day in and day out.

Q. Are there hostnames where you know that there are very large differences in the numbers of requests per minute from one POP to another, yet

you keep the number of servers equal as far as all POPs?

A. Yes. There are many customers who have very pronounced geographic difference in how many requests [38] they get, but the way the system was built, we put that number in Phoenix. It's the same everywhere, and we just — that's the way our system works.

MR. MacKINNON: Mr. Guillory, could we look please at demonstrative 138.

Q. And, Mr. Gordon, can you tell us what this illustrates, please.

A. So, this shows us the way a customer of ours, called Prodigy MSN is configured. In red we see their actual requests per minute over a 24-hour period of — I believe it was last Thursday.

Prodigy MSN I think most people know who MSN is. It's a big Microsoft content site on the Internet. Prodigy MSN is a sub-site or a particular — it's a particular version of MSN that is Spanish language and it has a lot of content related to the country of Mexico.

Now, Prodigy MSN, like almost all of our customers, is configured for a certain number of servers. In their case, the actual number is four. And, by the way, what we're talking about here is our video streaming services for Prodigy MSN. They're configured for four servers per POP. So, as you see, they have four servers in Seattle, four in Chicago, et cetera, et cetera. Each of our nine POPs has four servers.

[39]

Now, if you look there in red, you see how the requests per minute — the requests per minute for videos actually lands on our network, as it actually

shows up. It's not very surprising that in Los Angeles and Dallas, we have a lot of requests for content. Large Spanish-speaking populations, pretty close to Mexico, probably a lot of people interested in that content.

You look at the next busiest POP, it's Chicago, the six requests a minute, and then pretty quickly tails off. D.C. and San Jose and Miami are three and four, and then we have New York, Seattle and Atlanta, which are just getting a slow trickle, less than one request per minute.

Q. And the example we see here in Prodigy, is this type of approach where you do not vary the number of servers per POP, is that how you apply it across all of your hostnames, with the limited exceptions we talked about earlier?

A. This is exactly the approach we use, yes.

MR. MacKINNON: Mr. Guillory, can we please look at Demonstrative 182, please.

Q. And, Mr. Gordon, do you recognize this demonstrative?

A. Yes, I do.

[40]

Q. This is a screen shot of part of one of the demonstratives that Dr. Crovella used during his presentation.

Is this depiction of content servers within the Limelight Network that Dr. Crovella set forth accurate?

A. This is not accurate.

Q. Why not?

THE WITNESS: Can I approach the screen?

THE COURT: Yes.

(Witness approaches screen.)

A. What you see here depicted is how Dr. Crovella said DreamWorks would be configured in his example. DreamWorks is in blue, if you recall from his presentation.

We're looking at just three of the POPs, and a subset of each of those, but what we see is that each of them have seven available servers, but DreamWorks is being served off of three servers in San Jose, one server in Dallas, and two servers in New York.

That's not how it works. If the number we said in Phoenix was three, then it would be three in San Jose, three in Dallas, three in New York. If the number we set in Phoenix was two, it would be two in each of those places. You don't have Limelight serving — using different numbers of servers in different locations.

[41]

MR. McKINNON: Thank you, Mr. Guillory.

Q. There's been testimony earlier in the trial on the topic of flash crowds. In your use of the term, what is a flash crowd?

A. A flash crowd is when there's a dramatic change in the number of users that are looking for content from a particular site. So, sometimes it's also called, by the way, a traffic spike.

So, instead of our normal — or instead of the customer normally getting 100 requests a minute, suddenly they start to get 200 or 400 or 500. Sometimes we know they're coming because they're — you can expect them.

A great example would be the Super Bowl. I'm sure that SuperBowl.com got a lot more hits a couple

of days before the game and the day of the game than it got six months before the game.

And sometimes you can't plan for them, like there's a news event, and CNN gets a huge burst of traffic.

Q. Does Limelight automatically change the number of content servers in its zone files based on a flash crowd going to the hostname?

A. No, we don't.

Q. Well, does Limelight automatically put different content servers into a zone file based upon a flash [42] crowd going to a particular hostname?

A. No, we don't.

Q. How do you deal with flash crowds?

A. Well, we deal with them two ways:

First, as I said, we build in a lot more capacity than we think we need. So, for example, if there's a flash crowd that hits CNN, because we had set all nine of those locations to 30 servers, eight of them will already have a whole lot of extra built-in capacity, and if we picked our No. 30 correctly, even the busiest one will have enough capacity to handle that, that crowd.

But sometimes we're not — we don't pick that number accurately. We're not perfect. And so, when that happens, an engineer gets on the keyboard in Phoenix and changes the number, changes it from 30 to 40, and that then causes every location in the system to switch to 40, and that's how we handle the flash crowds.

Q. The engineer does this manually?

A. The engineer does it manually, yes.

Q. Do you have any examples of manual changes to the number of content servers based upon changing conditions for a hostname?

A. Yes. So, for example, in April of last year, there's a Website called "funnyordie.com." I don't know if any of you have seen it. It's Will Farrell's [43] Internet comedy site. They signed up to be a customer with us and we've provisioned them on four servers, and within a couple of days of them signing up, they released a video clip called "The Landlord," which was very, very popular. In fact, it within a few months became the third most downloaded clip ever in the history of the Internet. And, so we got huge, huge surge of traffic for "The Landlord."

So, an engineer went in and changed the configuration to ten servers and that immediately changed — that caused all the zone files in each of the locations to now offer ten servers for funnyordie.com and we handled the crowd with no problem.

Q. Was this done manually or automatically?

A. It was done manually by an engineer in Phoenix.

Q. When a Limelight name server receives a request from the user, does Limelight do anything to determine what content servers are better than others for the requested hostname?

A. No. We just return the users. Whichever servers whose turn it is to get returned, get returned.

* * *

[57]

* * *

Q. Let's change topics a little bit here, Mr. Gordon, and talk about a customer getting signed up and being able to use your system.

What does a Limelight customer need to do to have Limelight serve content for it?

A. Well, they need to sign a contract with us, but what they need to do is a — they need to publish a URL that has our hostname, that directs to our hostname, and indicates the object that they want to serve.

MR. McKINNON: Mr. Guillory, could we see Demonstrative 102, please.

Q. Mr. Gordon, using this demonstrative, can you explain the way a customer can have its content directed to Limelight, please.

A. Sure. So, there are two main ways. There's [58] actually a few others, but there's two main ways.

The first is by — so, for each of our customers, as we discussed, we give them a Limelight hostname. You can tell a Limelight hostname for our CDN customers because it will end with llnwd.net. That's our CDN domain.

Q. So, on this example, it's in blue, what is the Limelight hostname you just referred to?

A. The Limelight hostname in this example is in blue, is customer.vo.llnwd.net. I'm going to try and see if I can make this . . .

Almost. I left off a "c."

Q. Does Limelight have a name that it gives for this formulation of a URL?

A. We call this the "prepend method."

Q. Why do you call it that?

A. Because we've got a Limelight hostname and you have the object, which is 01/picture.jpg, which follows the Limelight hostname.

Q. Does this prepend method that you just referred to — does the URL include the name that the customer normally uses to serve the content without a Content Delivery Network?

A. No, it does not.

Q. And if you didn't have the Limelight hostname, part [59] which you've underlined in red, could 01/picture.jpg be entered into a browser and get to content?

A. No. Actually, not that content.

Q. Does Limelight tell its customers that they should modify their existing URL's in order to go to this structure?

A. No.

Q. Does Limelight tell its customers that they should scratch out their old hostname as part of this — going to this structure?

A. No, we don't.

Q. The second formulatior that's in green on the slide, what is that?

A. So, the second formulation, the one that's in green, shows you how many, many customers use a direct request to Limelight. So, what you see here is a customer hostname. In this case it's CDN.customer.com. So, the customer controls the customer.com domain. They put — they create a hostname within that domain. In our example, CDN.customer.com, and then they publish URL's, put them on Web pages or send them to the game consoles or however else they're going to distribute them, that have hostname and the object name — together with the object name.

Q. Is there a name for this type of method of [60] directing content to the Limelight Network?

A. Yes. This is called the "CNAME method."

Q. And the underlined customer hostname in red, CDN.customer.com, do you call that any particular type of name?

A. There's a couple of ways to refer to it. You'll hear it referred to as "an alias" or "a nickname."

Q. Does Limelight tell the customer that it has to use a CNAME method?

A. No. It's up to the court how they want to use our network.

Q. Does Limelight tell the customer the particular nickname or alias that the customer should use?

A. No. The customers choose those, and many, many customers have them set up already.

Q. What do you mean by that?

A. Well, it would — when customers use this CNAME method, it makes it very, very easy and it has two big advantages for customers.

The first is — we've seen some demonstrations here in court about how you can view the source or right click on the object and see what the URL is for this object.

When a customer does this, what people see are the customer's domain names, cdn.customer.com or images or [61] customer.com or video.customer.com. There's an awful lot of Web companies that prefer to use their own name so that consumers — the consumers who know how to do that right click or view source can't see who their CDN is.

The other reason, though, that customers do this is it makes it very easy for the customer to change CDNs. They control customer.com and they, therefore, control how they're going to direct any request they receive to any hostname within that domain, including in this example cdn.customer.com, and customers like control.

Q. Well, have you seen actual situations where an alias or hostname was used to direct requests to

Limelight's Content Delivery Network at one point in time and later the same alias or nickname is used by the customer to direct requests to a different CDN?

A. Yes, I have.

Q. Which ones — examples are you aware of?

A. Well, an excellent example would be Veoh.com.

Q. What is Veoh.com?

A. Veoh is spelled V-e-o-h. Veoh is a Social Media video site.

Q. And how did they use their nickname or alias hostname?

A. Well, Veoh set up a variety of nicknames and [62] directed them to Limelight. One of those nicknames was ll-cache, c-a-c-h-e, .veoh, v-e-o-h, .com, and they directed requests that they received for that hostname — they directed them to their Limelight hostname.

A few months ago they decided for that portion of their content that they wanted to use another CDN, and to make that change happen they simply made a — literally, it's a one- or two-line change in their name server configuration and now requests that they receive to that hostname they automatically direct to one of our competitors called Panther Express.

MR. McKINNON: Could we see Demonstrative 140, please, Mr. Guillory.

A. We're going to test my (indicating).

MR. MacKINNON: And could we see both parts of it, please.

Q. So, Mr. Gordon, does this illustrate the situation where Veoh has used the same nickname or alias to direct content to two different Content Delivery Networks?

A. Yes, this is exactly what they have done.

Q. So, currently, what is Veoh using the nickname to do?

A. Today they're using the nickname to direct requests for whatever content they want associated with [63] ll-cache.vo.com. Those requests now to go to Panther Express, one of our competitors.

Q. Is that something that Limelight directed them to do?

A. No. We would have rather kept that part of their business.

MR. McKINNON: Mr. Guillory, could you please put Demonstrative 141 up for us, please.

Q. And, Mr. Gordon, can you explain this example, also.

A. Yes. This is an actual example of a customer of Limelight's called ONET. They're the Polish Yahoo, if you will. So, they're the Yahoo of Poland. And, in fact, you can see in their — in their domain name, ONET, onet.vo, ".vo" is the country code for Poland. They had been using us for content delivery, and they had set up a hostname and it's kind of hard to read, but it's "tvn24m2-llnw.mm.onet.pl," and they directed requests that they received on their name servers for that hostname to their Limelight hostname using the CNAME method and they directed them to onet.vo.lnwd.net.

Q. And what happens now?

A. Well, they decided to take delivery of this in-house. And so, now what they do is when they receive resolution requests for that very same hostname, they [64] resolve those directly into server IP addresses.

Q. Is this something that Limelight directed ONET to do?

A. Nope.

Q. Did ONET choose this alias or nickname themselves?

A. Yes.

Q. Do you know of any situations where a customer has used the CNAME method to direct requests to Limelight and to another CDN in parallel, same time?

A. Yes. DoubleClick is doing it right now.

Q. What are they doing?

A. Well, they have two hostnames.

MR. MacKINNON: If we could look at Demonstrative 186, please, Mr. Guillory.

A. They have two hostnames. Just to make this clear for you, two mdn.net is a DoubleClick domain. DoubleClick is the big advertising company that Google is in the process of buying and they serve banner ads and other kinds of advertisements into other people's Web pages.

So, here we see, "ml.2mdn.net," which is, I presume, a hostname they picked, and that — when they receive requests for that on their name servers, they've set it up to direct those requests to an Akamai hostname. They then have set up a second hostname, [65] "m2.mdn" — I'm sorry — "m2.2mdn.net," and when they send — when they receive requests for those, they set up their CNAME record on their name server to direct those requests to their Limelight hostname, doubleclick.vo.lmwd.net.

By the way, "K" is not a typo on the slide. For some reason, they're selected to be DoubleClic with a "c."

So, they're using two different hostnames. They control them both. They can point one to Akamai, one to Limelight, and they can change them at will.

MR. McKINNON: Thank you, Mr. Guillory.

Q. Now, again, changing a little bit our focus here. I would like to look at the time when the user has received a list of IP addresses for content servers from Limelight, from a Limelight DNS server. What does that the user do with this list?

A. The user picks an IP address off that list, sends a request to that server. The request is in the protocol that was in the URL, and they send a request for the object indicated by the URL.

Q. And just to refresh us, what is a URL?

A. A URL is that — well, URL is the string of characters that Web companies use to — or Internet companies use to direct requests to a specific object.

[66]

MR. MacKINNON: Mr. Guillory, could we look at Demonstrative 111, please.

Q. Mr. Gordon, can you use Demonstrative 111 and 112 just to take us through the basic steps the user would do in the Limelight system from the time it receives this list of IP addresses and then actually using them to get the content, please.

A. Yes. So, here we're sort of at the end of the resolution process. Limelight sends back the list of IP addresses, as we've been discussing, to the ISP, the user's ISP, and the user's ISP sends them to the user's address. The user's device then will create a request for that particular object that was in the

URL. In this case, it's 01.picture.jpg, and send it to one of those IP addresses that it got back. So, one of the Limelight content servers. And this is all just how the Internet works. Limelight's content server will then return that object to the user. It will be the content server that received the request.

Q. What happens if — when the user goes to the selected content — the content server it has selected and the object isn't on the content server, what does Limelight do then?

A. So, if the content server that receives the request does not have the object, it has to figure out — it has [67] to go get it, is the first thing.

Q. Is there enough information in the URL itself to allow Limelight to get that content?

A. No. In either case, the URL does not contain enough information for Limelight's content server to find the object if it doesn't already have it.

Q. How does do it?

A. Actually, not enough information to find it under any circumstances.

It looks up the URL in a table that it has and that table will tell it where to go. Now, this is a table that is maintained on every content server system-wide for any given format. So, we have a table like this for HTTP, which is Web content, graphics and pictures, and we have a table like this for Windows Media, et cetera, et cetera, but within that format, it's one table and it's on every server, and we have to keep it in sync on every server across the network.

MR. MacKINNON: Thank you, Mr. Guillory.

Q. Does Limelight distribute content to its content servers before the customer has associated

URL's with the content to direct the content to Limelight?

A. No, we do not.

Q. Does Limelight ever send a copy of a particular piece of content to a group of content servers in [68] response to a single request for that content?

A. No, we do not. The only content server that gets the object is the content server that needs the object to return it to a user.

MR. MacKINNON: Mr. Guillory, could you please put Demonstrative 144 on the screen, please.

Q. And, Mr. Gordon, could you use Demonstrative 144, please, to explain the process by which content goes to the Limelight content servers.

A. Sure. So, what we have here is five users. I took the liberty of using my name and my wife's name and our three oldest kids, but they could be any five users on the Internet in the greater Georgia or Atlanta area.

We have our Atlanta POP. We're going to look at a single hostname here, and this is going to be the way that Prodigy MSN would actually work, but this could be any hostname that we have that served off of four servers.

And, by the way, this basic process would apply to any hostname that we have whether it's served off of six servers or 30 servers or 100 servers. And what we're going to see is what happens as users go through this process and request the object and how that works.

So, a our user Mike gets on the Web, looks at the page, sees a video that he wants to look at, clicks the [69] video. Round-robin, by the way, has assigned Mike to Server No. 1. At that point round-robin

assigns Mike to Server No. 1. It actually gets back the whole list, but No. 1 is the first one on the list. And Mike's PC picks the first server on the list, sends a request for the video.

Now, Server No. 1 doesn't have the video. So, it has to go get it. So, Server No. 1 goes and gets it from our location in Phoenix where we store copies of all this stuff for most of our customers, and it travels across our backbone to Phoenix, the request does, and the video comes back across our backbone to the server in Atlanta, and now the server in Atlanta has the object, Server No. 1, and it sends the object to Mike and he watches the video.

Next Lauren is going to want to watch the video. So, she clicks on an object. Round-robin returns the list of four servers. Now it's server No. 2 at the top and her PC picks that server to get the object. The Server No. 2 doesn't have this object. So, it goes back — uses our backbone to go all the way back to Phoenix, get the object, bring it to Server No. 2, and now Lauren can watch — it can be delivered to Lauren and she can watch the video.

Now, our third user, Alex, wants to watch the [70] video. He goes to the Website, sees the video, clicks on the object on the page, and round-robin sends the IP addresses back by one and now Server No. 3 is at the top of the list.

Now, the object is not in Server No. 3. So, Server No. 3 has to get the object, request it in Phoenix. It travels across the Limelight optical network to Atlanta, gets stored in Server No. 3, and gets delivered to Alex, so he can watch it.

And, now, our fourth user is going to request video. This user is Holden. Holden clicks on the video.

Round-robin rotates the list one more time. He's going to get Server No. 4.

Server No. 4 does not have the video. So, server No. 4 has to get the video. It requests it from Phoenix. The video travels across our backbone to Atlanta. Gets stored in Server No. 4 and then gets delivered to Holden, so he can watch it.

So, what we see here is that because we have four servers and because we're using this round-robin process and because there aren't very many requests for Prodigy MSN, all four of these users, the server they get assigned to is going to be different and they're — each one of those servers is not going to have the object and each one of those servers is going to have to go get it. [71] Luckily, we have a backbone to do that.

Q. What about the last user?

A. Ah. So, here comes our fifth user, Macey. She gets on the Website. She sees a different video she thinks would be interesting to watch. So, she clicks on Video B, and now in the round-robin rotation, Server No. l's turn comes up again. Server No. 1 doesn't have Video B because we didn't attempt to guess ahead. When Video A was requested, the only thing we sent back was Video A. We didn't pick ten objects to send back, that we thought if one user wants one, other users will want others. We just sent back A.

So, now B doesn't have the object. You have to go get it from Phoenix, travels across the backbone, gets stored in Server 1 and delivered Macey so that she can watch, and delivered to her and now she can watch Video B.

MR. MacKINNON: Thank you, Mr. Guillory.

Q. The issue of the so-called page has been talked about during this trial. Does Limelight have any role in how customers serve their pages?

A. No, we don't. Customers make those decisions for themselves.

Q. Do you tell the customer how to serve the page?

A. No.

[72]

Q. Did customers find another entity other than themselves to serve their page?

A. Sure. As you suggested, they could serve the page themselves, but there are lots and lots of companies in the Internet hosting business, Internet hosting and shared hosting, that do that for many, many, many of our customers.

Q. Could you look, please, at Demonstrative 150. And what is does this summarize, Mr. Gordon?

A. Well, this shows you just a few of our customers. These are actual Limelight customers. We serve media content, typically video, for all these customers, and you see here who they use to serve pages, who they've chosen to have serve their pages. So, for example, funnyordie.com, which I talked about earlier, their pages are served for them by a company called RackSpace Managed Hosting. It's one of the biggest companies in the business, great company.

Another example off this list, planetorange.net, which is the Phoenix Sun's fan site. Their pages are served for them by a shared hosting company called 1&1 Internet, another big shared hosting company like RackSpace. We served the video, but 1&1 Internet serves pages for Planet Orange.

And the last one I'll point out is babycenter.com. [73] It's a Website, as you would expect, for mothers with new babies. They use a Web hosting company called RagingWire to serve their pages and we serve the media content.

Q. Does Limelight instruct these customers that they should go somewhere else to have their page served?

A. No. They can go anywhere they want and they can change where they go.

Q. That's not anything that's in Limelight's control?

A. Has nothing to do with us. We have no control over it.

Q. If you could turn the binder that's in front of you, Mr. Gordon, to Exhibit 415, Plaintiff's Exhibit 415.

MR. KRUPKA: We have one for, your Honor, if you would like.

(Attorney Krupka hands document to the Court.)

Q. Do you recognize this, Mr. Gordon?

A. I do.

Q. What is it?

A. This is a form document from one of our internal systems. It's called CDN Welcome Letter.

Q. Is this form document sent out as is to customers?

A. No. This has standard language that addresses every one of our formats. Again, I can't think of a [74] single customer who does every one of the formats we do. This is sort of a cut and paste, if that.

Q. Does the Welcome Letter — that's what the title of it is. Do you see that, sir?

A. Yes, I see that.

Q. Does the Welcome Letter say anything about how the customer is to serve the page?

A. No.

Q. Does it even mention the customer serving the page?

A. No.

Q. Are there some customers that you provide content for that do not have pages?

A. There's a lot of them. It's a big part of our business.

Q. Could you explain that, please.

A. Sure. Probably the best example, it's one of our biggest customers, would be Microsoft Xbox. We deliver all of the content for Xbox Live Marketplace, which is where Xbox users go to download games and game updates, New Worlds for Halo 3, and things like that.

We deliver all the content for Microsoft for the Xbox Video Marketplace, which is where Xbox users can go to download television shows and movies.

There's no browser on an Xbox. You can't browse the Web. You can't type in www.yahoo.com. It doesn't [75] even have that kind of keyboard, but there's no browser. It wouldn't know what to do with the page if it got.

What there is, is software that runs the Xbox, and when Microsoft wants us to deliver a particular game or a video to the Xbox, they use an HTTP URL, just like we've seen in many cases here, http://msxb, I think, .vo.lnwd.net, followed by the object name, and they send that URL to the software in the Xbox

and that Xbox requests the movie. There's no page involved anywhere.

Q. Any other examples where you have no page, but you're still providing content?

A. Direct TV, their new set-top box. Of course, it takes to their satellites, so you can get all your television — your normal television on the satellite, but if you want a video on demand on your next generation Direct TV set-top, using your TV remote control, you scroll through the choices and you click play and it uses the Internet to go get the movie from us. It uses HTTP, a URL, just like we've seen over the last week and a half or so. There's no Web page. It doesn't have a browser. It can't browse the Internet.

One other example that I think is interesting is Windows update. We deliver, not all of, but a good percentage of the updates to folks' Windows PCs around [76] the world for Microsoft. And, again, that's a program that runs in Windows that looks at the software on your PC, looks to see if there's any new components it needs to add to bring you up to spec. If there aren't any new components, it goes out over the Internet and requests them, uses an HTTP URL, just like these, but there's no Web page.

Q. These examples that you just gave us from Microsoft and Direct TV, are these minor parts of your business?

A. No. In fact, Microsoft is our largest customer. It's — in total, it's 14 percent or 15 percent of our business and at least the last quarter, I think that's right. Xbox is the biggest single part of Microsoft and — Microsoft that we do.

Q. I want to go back, now —

THE COURT: We have a question. We'll ask the question and then we stretch.

JUROR: Excuse me.

I'm a little confused by a series of questions that have been asked, which have all, basically, had the format: Do you tell the customer to prepend the CDN name or to CNAME a virtual hostname, and to each of these, the response has been, no, you don't tell the customer to do these things.

Then how do the customers end up doing them [77] or how do they get done?

THE WITNESS: Well, first of all, we don't do anything with anything we've ever called a CDN virtual hostname. Let me just make that very clear. And nor do we have anything like that, as I've heard it described here.

The answer to your question is, when you — let's take the page example, because that's the easiest example to help illustrate this.

When a Web company, like Yahoo, creates a page, they publish the page with the text and the format instructions for the text, and then they publish URL's for all the objects, the pictures and photographs that they want to have automatically downloaded with that, and those are URL's, just like every other URL you've seen. So, customers already have publishing systems that create those pages, and very often customers will have a separate domain already.

So, Yahoo, for example. You go to yahoo.com, the imagines, in many cases, anyway, come from a domain called Yimg.Com. You'll never see that on your browser, but your browser gets object URL's in the pages that say www — or that say "image," — or something else, .yimg.com. So —

JUROR: If I were to right click on those [78] objects, I would get that URL?

THE WITNESS: You would see that URL in a photograph or a logo on a Yahoo page. Not every one, but a high percentage of them. At least the last time I did it, which has been a month or two.

So, the whole notion of a hostname — and this may help you as well — that goes back to the very beginning of the Worldwide Web. That, in fact, goes all the way back to the beginning of the Internet, at least the Internet Domain Name System in 1989, and the idea of a URL is fundamental to Tim Berners-Lee's Worldwide Website invention.

So, all of this is stuff that customers have been doing for years and years and years. None of this is any — is any radical new invention.

Now, maybe what people do with those hostnames is different in terms of CDNs, but the customers, they've been doing this forever, since the beginning of the Web, and even small customers know exactly how to do this.

And I'll add one more thing. The CNAME process, that's in the original Domain Name System spec. from 1989, standard that all Internet companies are supposed to follow for DNS. You know, Internet standards are sort of voluntarily adhered to. Nobody [79] can make us do it. So, again, customers know how to do that.

Q. Let me a follow-up and then — oh, I'm sorry. We're going to stretch.

THE COURT: You can ask the follow-up and then we'll stretch.

MR. McKINNON: Okay. I think this may go to the juror's question.

Q. Do you provide to the customer the basic outline of the format of what this URL would look like if they decide to use it and direct it to your system?

A. Yes, that we do.

THE COURT: All right.

(Stretch break.)

THE COURT: Okay. How much more do you have with the witness?

MR. McKINNON: I'm fairly sure I'll be done before 10 o'clock — excuse me — 11 o'clock, your Honor.

THE COURT: Terrific. Thank you.

Q. Mr. Gordon, we've spent a fair amount of time talking about what your current CDN system is and how it works, and now I want to go back to the time period in 2004, where we were talking prior to this discussion of the technology. [80] In 2004, were you in any discussions with Akamai?

A. Yes, we were.

Q. And what was the subject of those discussions?

A. The subject was the possibility of Akamai acquiring Limelight.

Q. Who from Akamai were you communicating with?

A. A gentleman named Robert Wood, who is their — I understand is their VP of Corporate Development.

Q. When did those discussions begin?

A. They began in the spring of 2004. We had received an unsolicited offer to buy Limelight from another company, not Akamai, and our bankers called a few other companies to see if anybody else had any interest, and that's when these conversations began.

Q. In 2004, can you estimate how many communications you had with Mr. Wood or others from Akamai?

A. One face-to-face meeting, in-person meeting, that I recall, and I think it would be fair to say one or two dozen phone calls.

Q. As of the end of 2004, where did those communications stand?

A. Well, Akamai had decided not to make an offer and we had decided not to accept the other guy's offer and to say independent.

Q. At any time up until the spring of 2005 — well, [81] one other question before I ask that.

In 2005, did you continue to have some communications with Mr. Wood from Akamai?

A. Yes. Where we left it was, you know, sort of a — let's stay in touch and if anything changes, I'll call you or you'll call me, and there were a few phone calls and e-mails. Nothing of any great substance until towards the end of '05.

Q. If we look at the time period of April or May 2005, at any time up until April or May 2005, had Mr. Wood or anyone from Akamai made any statement to you that they believe Limelight's Content Delivery Network infringed the '703 Patent?

MR. FRANK: Objection. It's not alleged.

THE COURT: Well, I guess he's trying to show the jury it wasn't alleged.

A. No, they had not.

Q. We've heard testimony, through videotape principally, that in April or May of 2005, Limelight may have changed to its Content Delivery System architecture. Do you remember that, sir?

A. Yes, I do.

Q. And you're familiar with that change?

A. Yes, I am.

Q. The questions I'm going ask right now deal with the [82] system that was in place prior to the change. This will be the system that existed prior to May of 2005. Do you understand that?

A. Yes, I do.

Q. Did the system prior to May of 2005 use Anycast?

A. Yes, it did.

Q. Did the system prior to May of 2005 use DNS name servers?

A. Yes, it did.

Q. Did the system prior to 2005 run Bind on its name servers?

A. Yes, it did run Bind.

Q. Did the system prior to May of 2005 use the same URL formulations that we saw on the demonstrative today?

A. Yes. All of our hostnames were in the same format that we see today.

Q. And were CNAME's used in the system prior to May of 2005?

A. Yes, we had a lot of customers using CNAME's.

Q. Prior to May of 2005, did the Limelight system rely on Bind and the Internet to direct requests to name servers?

A. Yes. I mean, that's just the way the Internet works.

Q. And if you had a situation at a content server [83] where the content server did not have content in

the system that was in place prior to May of 2005, how did you get that content?

A. Well, we looked up the content in our table and requested it from the origin. If that was on our own network, we used our optical network to get it.

Q. When considering a change from this system, this pre-May 2005 system, before modifying that architecture, had Limelight decided to buy more switches instead of using the architecture, do you know how much it would have cost to purchase those switches?

A. To get to where we are today and including — because you would buy new switches, so you would want to retrofit the ones you had. $1.5 million to $2 million.

Q. And the system that was in place prior to May of 2005, had Limelight used that system to deliver content for any large or major events?

A. Yes, we had for many events.

Q. Can you give us examples, please.

A. Sure. So, in November of 2004, you may recall there was a presidential election. MSNBC had us deliver all their content related to the presidential election. In April of 2005, Pope John Paul, the second, died and a new Pope was elected. MSNBC had us deliver all of their content related to the election of the new Pope and that [84] was to that point in time the largest event ever on the Internet.

And then, actually, later in 2005, in May of 2005, Microsoft Xbox signed up with us for the first time and later in the year launched updates to Halo. Actually, at that time it was the first version of Halo.

Q. What is Halo?

A. It's the most popular video game in the history of console-based video games.

And although we had started our transition to the new architecture by that time, we delivered all the Halo content off of the old — I shouldn't say "old," but the existing switched-based architecture.

Q. And these events that you — these major events you've just described, did Limelight's pre-May 2005 system successfully deliver that content?

A. Yes, very successfully. In fact, Microsoft was so happy with the work we did for them on the coverage of the election of the new Pope at the Vatican and separately the Xbox division on the work we did with them, that they in both cases allowed us to do press releases, which is very rare for Microsoft to do.

Q. Now, Mr. Gordon, in May of 2005 or April of 2005, was Limelight prepared to agree to a license that would cost it $22 million over three years —

[85]

MR. FRANK: Objection.

Q. — that would change from this existing architecture to a new architecture?

MR. FRANK: Objection.

THE COURT: What's the objection?

MR. FRANK: The question is entirely hypothetical.

THE COURT: I'm sorry?

MR. FRANK: The question is entirely hypothetical. The question — perhaps Mr. MacKinnon or the reporter could repeat it. He's asking — I believe Mr. MacKinnon is asking a question about an event that never occurred.

THE COURT: Is that true?

MR. McKINNON: There was never a demand for $22 million, but I'm asking would they have been prepared to pay $22 million at the time.

THE COURT: He can ask that.

A. No, we didn't have anywhere close to $22 million.

Q. Well, the architecture that existed prior to May of 2005, was it everything you wanted in your system?

A. No. It wasn't perfect. It had some issues. It was a little challenging to put that same number of servers in every one of those switches, for example, but we — it worked just fine to that point. It would have [86] worked just fine for a long time to come.

Q. Did you have $22 million to pay for a license?

A. No.

Q. Did you see a growth in your sales in the second half of 2005 and 2006?

A. Yes, we saw a dramatic acceleration in revenues.

Q. Within Limelight, what do you attribute that growth to?

A. Well, there were three principal things that we believe drove that growth:

The first is that in the first half of 2005, Akamai acquired Speedera. Speedera had been the second largest company in the CDN business, and when Akamai announced and closed the acquisition, everyone in the industry — there were four or five of us that were sort of left, and everyone around the industry was really interested in the question, you know, who would be second, and the folks that were interested in the choice started immediately looking for that new No. 2.

The second thing that happened was pretty dramatic, was right in that same time frame of, I think, just a few weeks before Akamai closed that acquisition, we announced the win with the Microsoft Xbox. It was a very big deal. The very important, I should say, in terms of the way customers and the marketplace viewed [87] us. It really gave us a tremendous boost in credibility.

And the third thing that happened was the whole Social Media revolution. We had signed MySpace as a customer, either very late in '04 or at the very beginning of '05. We signed up Facebook around the middle of '05. We got our first contract with YouTube in, I think, the third week of January in 2006. Those three companies were three of our top-ten customers in 2006.

And to go a little bit further, just to give you a perspective on this, MySpace's business with us grew by seven — almost seven times from '05, the whole year of '05 to the whole year of '06. They were our number-one customer in '05, and they were our number-one customer in '06, and they did maybe six times, but five or six times the revenue in that one account in '06, as they did in '05.

You take those three, plus Xbox, right there is four of our top-ten customers in 2006. So, those three things taken together just caused our business to just take off.

Q. In 2006, did your discussions with Akamai resume?

A. They did, either very late in '05 or at the beginning of '06.

[88]

Q. And what happened in 2006 in your discussions with Akamai?

A. Well, we had gotten, yet, another unsolicited acquisition offer. Again, not from Akamai, from somebody else. And, again, our bankers had called around a few other companies to see who might be interested, and this time Akamai, again, very interested in talking to us and this time, they made us an offer to buy the company.

Q. What did you do in response to that offer?

A. Well, we had a lot of offers at that point, including offers to stay independent and take the company public. And so, we ended up choosing that alternative and saying no to Akamai.

Q. Were you speaking again with Mr. Wood in 2006?

A. He was the primary contact, yes.

Q. And did you speak with anyone else from Akamai in 2006?

A. Probably seven or eight other Akamai folks.

Q. Did you talk to Mr. Sagan, for example?

A. We did talk to Mr. Sagan, yes.

Q. Did you tell Akamai at some point in time, We're not going to be able to do a deal where they would acquire your company?

A. Yes, we did. We told them we had decided to stay [89] independent and go the IP route.

Q. How did that — when did that communication take place?

A. June 21st was when I told Mr. Wood that we had definitively decided not to go with Akamai.

Q. And did you have another discussion with Mr. Wood after that time?

A. Yes, we had a conference call, Mr. Wood and Mr. Sagan and myself, on June 22nd.

Q. And what happened during that conference call?

A. They asked if they could increase the offer, if that would change our decision, and they proposed that they might double it.

Q. And what did you say in response to that offer?

A. We told them we had made our decision, that we were going to stay independent.

Q. Was Mr. Wood on this call in June 22nd?

A. Yes, he was.

Q. Did you have any other telephone calls with Mr. Wood following June 22nd?

A. I had one more phone call with him late in the day on June 23rd.

Q. What happened in that phone call?

A. He called me on my cell phone to let me know that Akamai had sued us for patent infringement.

[90]

Q. Prior to this June 23rd call from Mr. Wood, had Mr. Wood or anyone from Akamai given you any notice over a two-year period of time of communications that they believed your system infringed the '703 Patent?

A. No, no one had ever said anything even remotely like that.

Q. Over that time period had anyone from Akamai informed you that they believed they thought you needed a license under the '703 Patent?

A. No, no one had said anything like that.

Q. One final question, Mr. Gordon. Why are you defending this lawsuit?

A. Well, I think we're right. There's a lot of shareholders and employees who are counting on us

and, you know, there's a thousand customers who count on us to get their content delivered to their users, to do a good job of that — or, I think, a great job of that and do it at a fair price, and I think it's really important that we continue to be — to do that.

MR. McKINNON: No further questions at this time.

* * *

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

JURY TRIAL
Day 8, Session 2
February 21, 2008

* * *

[104]

Q. I think you told us, I don't think there's any dispute, Limelight is in the content delivery business; is that correct?

A. I think that's correct.

Q. And Limelight and Akamai compete on a head-to-head basis?

A. Akamai is our largest competitor.

Q. And is it fair to say that Limelight in its public materials sort of presents Limelight and Akamai as if they were in a class by themselves as compared to other competitors?

A. I think that's probably a reasonable description, yes.

Q. Now, it's correct, is it not, that Limelight's network is a distributed network?

A. I think it would mean that definition, yes.

Q. And that means that Limelight at a number of locations, I think you said nine in the U.S. and a total of fifteen overall, has collections, you told us this morning, of DNS servers and content servers; is that correct?

A. At a basic level, that's correct.

Q. Is it correct that stored on the content servers this very minute as we speak are thousands and thousands of copies of pictures and videos and stuff that [105] Limelight delivers?

A. I would imagine so, yes.

Q. Any estimate of how much stuff is stored around on those content servers that Limelight has?

A. It's probably billions of objects.

Q. Now, Limelight provides a hostname to each of its — let me start in a different place.

Limelight's customers are the content providers, correct?

A. In most cases, yes.

Q. And to each of its content provider customers, is it correct that Limelight supplies one or more Limelight hostnames?

A. Yes.

MR. FRANK: And could you put up slide 3 again?

Q. Is it fair to say that the format that's shown on the screen is typical, is a fair characterization of what a Limelight hostname looks like?

A. Yes, I think that's a fair characterization.

Q. It's correct, is it not, that all hostnames are in this format?

A. Well, it depends. They're all in an llnwd.net, that's true. The vo will be able to differ —

Q. Actually, you and I are going to explain that in a [106] second.

The llnwd.net part, let's talk about that. That points to the Limelight network, does it not?

A. The .net is a top-level domain on the Internet, and the llnwd is a domain within .net that we own.

Q. So, any time a customer uses a hostname that ends in llnwd.net, a request relating to that hostname will every single time be referred to the Limelight network, correct?

A. It will come to the Limelight name servers, yes.

Q. And that is, an llnwd is a domain, it's a group of computers that Limelight manages, correct?

A. Well, llnwd.net is a domain, that is correct.

Q. And llnwd corresponds to the Limelight content delivery network, correct?

A. That is correct, yes.

Q. Now, let's talk about the rest, the left side of that hostname. The left side of the hostname is information that is descriptive of a group of content associated with a single customer, correct?

A. The .vo is not.

Q. Let's take it in pieces. The xyz part, whatever is said where it appears xyz, and in your slide you had customer in that location, that is a series of letters and numbers that is, in the case of every single [107] customer, unique to that customer, correct?

A. It is a label that is unique to that customer, that is correct.

Q. And furthermore, for many customers, it describes a subpart of the customer's content on the Limelight network?

A. It's a label that customers apply to whatever content they want to apply it to.

Q. For some customers, xyz is simply a label that identifies the customer; is that right?

A. Xyz will always be unique to a single customer, correct.

Q. But for some customers, there's the equivalent of xyz1 or xzy2 because it is broken up into separate libraries or groups?

A. If that's what the customer wants to do, it's up to the customer.

Q. Now, the vo is information about the object and, in particular, is information about the format in which the object is stored, correct?

A. That's not correct.

Q. Well, vo describes a certain kind of content; is that right?

A. That's not correct.

Q. What does vo stand for?

[108]

A. It stands for certain kind of server.

Q. Okay. So, what we now know is that xyz.vo says that this is content for a particular customer stored on a particular kind of server, correct?

A. That's generally correct, as long as kind of server means web or Windows Media or Real.

Q. And sometimes you call the xyz part a customer shortname, correct?

A. That is correct.

Q. And that is used by the Limelight DNS in order to identify a server or group — let me start again.

The xyz.vo part is received by the Limelight DNS; is that correct?

A. The entire hostname is received by the Limelight DNS server, that's correct.

Q. Sorry, that's fair. The entire hostname is received by the Limelight DNS. And of course, every hostname that's received by the Limelight DNS ends in llnwd.net, yes?

A. By the CDN DNS, that is correct.

Q. And so, what the CDN DNS looks at is the xyz.vo part in order to decide what, in order to identify which content server's IP addresses will be returned to the end user that has sent the hostname to Limelight; is that right?

[109]

A. No, you have that wrong.

Q. I'll try again. The Limelight DNS — let me come at it — that information is used by the Limelight DNS system, is that correct, the xyz.vo information?

A. The entire hostname is used by a single unit in the Limelight DNS system.

Q. What does the Limelight DNS system do with xyz.vo.llnwd.net as compared to abc.vo.llnwd.net?

A. For any hostname it looks up the zone in the file that returns that hostname and returns the list of IP addresses in the zone file that corresponds to the hostname.

Q. So, that list of IP addresses will be different, for example, for, or will likely be different for

abc.vo.llnwd.net as compared to xyz, that is for two different customers?

A. It could be. It could be different; it could be the same. It could overlap.

Q. Now, Limelight tells its customers, does it not, — Limelight tells its customers that if the customer wants Limelight to deliver content for the customer, they must use this hostname in one of two ways; is that correct?

A. Those are two primary ways that we can deliver content for them, yes.

Q. Okay. One way is called the prepend method; is that [110] correct?

A. That is correct.

Q. And in the prepend method, Limelight says to the customer, you must take — if you want to use the prepend method, you take the hostname in this form and you put it in the URLs associated with individual objects on the content provider's page, on the page that the content provider will serve?

A. That's not what we tell customers.

Q. Is it fair to say that you tell customers that they can do one of two things: One thing is that they can put the hostname in that form into the URLs that the customer publishes?

A. I don't think that's what we tell them.

Q. I'll come back to this. There's a second way that a customer can use a hostname like this; is that correct?

A. If you're referring to the CNAME method, that is correct.

Q. There's the prepend method and the CNAME method, correct?

A. Those are the two primary methods, correct.

Q. Now, in the prepend method, where does the customer put that hostname? How does the customer —

A. I don't understand.

Q. Limelight gives the customer that hostname. In the [111] prepend method, what does the customer do with that hostname?

A. They create a URL for an object they would like to have us deliver.

Q. And where do they put that URL?

A. Wherever they want the delivery — somehow, they get it to the user.

Q. That's right. And they get it to the user by delivering one of those shell pages to the user with a URL in it that has that hostname, correct?

A. They may. That's one way they could get the URL to a user, yes.

Q. There's a second way they could get the URL to a user, and that's the CNAME method; is that correct?

A. That's not correct.

Q. Is it correct that Limelight uses something called a CNAME method?

A. That is correct.

MR. FRANK: And let's look at slide 140, please, Josh. Actually, let's go back. I want to start at slide 102.

Q. What we see at the top in the blue is the hostname that ends in llnwd.net, right?

A. That is a hostname for a customer that ends in that, yes.

[112]

Q. And that llnwd is the tag that will make the object with which that's associated, make request for that object to go to the Limelight DNS, correct?

A. That's not a tag, Mr. Frank.

Q. Without regard to what we call it, that thing will make the request for that object to wind up at the Limelight DNS?

A. That hostname will resolve through our name servers, yes.

Q. And the green version that appears on the page, that does not have llnwd.net in it, correct?

A. That's correct.

Q. And for the customer to have content delivered by Limelight, what the customer has to do is perform a second step; is that correct?

A. The customer has to perform a CNAME resolution of the hostname they published.

Q. Okay. And now let's look at — so, what happens then is that the customer — what the CNAME involves is that the customer's DNS changes the hostname that we see there, cdn.customer.com to the Limelight hostname, customer.vo.llnwd.net; is that correct?

A. No, that's not correct.

Q. Let's look at slide 140. On the left we see an example of — well, on the right, we see a form of [113] Limelight hostname with the llnwd.net in it; is that correct?

A. That is correct, yes.

Q. And an identifier of the customer and the kind of server that's served on on the left, correct?

A. That is correct.

Q. And the name that we would find on the customer's page on the "Before" side is ll-cache. veoh.com; is that right?

A. Yes. In that example, that would be the name that would be in the URL that the customer gets to a user, whether it's on a page through software, however.

Q. And that example, what the customer does if it wants Limelight to deliver content for it is that the customer's DNS substitutes the name on the right for the name on the left, correct?

A. No, that's not correct.

Q. Is it correct that if the customer wants Limelight to deliver content, the customer must use the CNAME process to change the hostname that appeared in the page to the hostname that appears on the right; that is, a hostname in the form that ends with llnwd.net?

A. That's not how CNAME'ing works.

Q. Tell me how CNAME'ing works.

A. The customer's name server receives a request for [114] the version on the left, so ll.cache.veoh.com.

The customer's name server tells the inquiring party, sends back what's called a CNAME record, which says you can get IP addresses for that domain from a different place. In this case, it suggests or tells the inquiring party, do a resolution of veoh.vo.llnwd.net. The inquiring party now restarts the domain name resolution and eventually, assuming we're doing our job, gets back some IP addresses. But the URL is never changed.

Q. The URL has what's on the left in it; is that correct?

A. That's correct.

Q. And that URL, the one on the left, is specially configured so when it's received by the customer's DNS it will be changed to the one on the right?

A. That's not correct. The URL is a standard URL.

Q. But this particular URL, the one that starts with ll-cache.veoh.com, is something that's designed to cause the customer's DNS to change what's on the left to what's on the right?

A. Those characters have nothing to do with what the customer's DNS does with it.

Q. The customer's DNS has to recognize, when the customer's DNS receives what's on the left, it has to [115] recognize that as something, right? It has to recognize and know what to do with it?

A. The customer's name server will not be able to respond if there's not an entry in the name server that contains that label associated with the customer's domain.

Q. But there is an entry in the customer's DNS that corresponds to what's on the left, and it tells the customer's DNS that it's supposed to change what's on the left to what's on the right.

A. No, Mr. Frank, you have that wrong.

Q. Would you agree with me that if a customer wants to use Limelight's servers, or — actually, what is on the left here is what's called an alias; is that correct?

A. Yes.

Q. What's on the right is what's called a Limelight hostname; is that correct?

A. That's correct.

Q. And is it correct that if the customer wants to use Limelight's service, the customer can put an alias

for the Limelight hostname and then have its DNS substitute the true Limelight hostname for that alias?

A. I'm not sure — are you asking me can a customer use aliases and CNAMEs? They can use them for whatever they want.

[116]

Q. If a customer wants to use the Limelight system and the customer uses the CNAME method, the customer must use an alias for the Limelight hostname; is that correct?

A. The customer publishes a hostname and chooses to refer a request for it to a Limelight hostname, that is correct.

Q. And this CNAME'ing adds an extra step to the process, does it not?

A. As compared to?

Q. As compared to putting the Limelight hostname directly on the page?

A. It adds at least one additional step to the resolution process, yes.

Q. It's correct, is it not, that many customers don't want to add that extra step?

A. Some customers use Limelight hostnames and publish them, and some customers prefer to CNAME it. It varies on a customer-by-customer basis.

Q. Is it correct that Limelight tells its content provider customers what the Limelight shortname or hostname is if the customer wants Limelight to deliver content for it?

A. Well, we have to agree with what it is.

Q. Okay.

[117]

A. We have to be able to recognize it on our name servers.

Q. And is it correct that Limelight tells the customer that if the customer wants Limelight to deliver content, they either have to publish URLs using that customer shortname or, in the alternative, they can publish an alias and use the CNAME process to substitute a Limelight shortname or hostname for that alias?

A. Okay. So, you're substituting, again, and there is no substitution in the CNAME'ing process.

MR. FRANK: Josh, would you put up Exhibit 415.

Q. This is a sample form you showed us, actually, in your direct examination. This is a sample form of a Limelight CDN Welcome Letter; is that correct?

A. It's a form document.

Q. Okay. And you were asked about this form document in your, during one of your depositions; is that correct?

A. I believe I was.

Q. And the question went something like this. It said, this is referring to this Welcome Letter, and the questioner says —

MR. MacKINNON: Your Honor, page and line number, please, and date.

[118]

MR. FRANK: I apologize. This is October 10, 2007, page 406, beginning at that line.

Q. The question is — let's look at the first page of the CDN Welcome Letter. It says: "Hello, your Limelight Networks CDN account is ready for use. Here are the FM and URL details."

MR. FRANK: Let's pick that up, if we can, Josh, in the letter.

Q. And then it goes on to have a section for HTTP, and then it has some formats, at least, for information about Limelight hostnames and user names and password. And that's what's called an HTTP prepend URL.

And then it has a similar section down below for Windows Media On-Demand, QuickTime On-Demand, and so forth.

Then you were asked: "Does Limelight tell the customer what these different elements that are represented in these sections are for and how they should be used?" Do you recall that question?

A. I don't recall it, but I'm sure we tell customers how to use our system if they want to.

Q. And then you testified: "Well, generally speaking, we tell them what they are, what is their assigned Limelight shortname or hostname. I think generally customers know that that means if they want us to [119] deliver content they have to publish URLs using that shortname or, in the alternative, if they want to obscure the shortname from their end users, implement a CNAME process to do that."

Did you so testify, sir?

A. I don't have the testimony in front of me, but I have no reason to doubt you. I think that's what I just said.

Q. Okay. And when you publish a hostname, you must do that by sending the page to the customer, correct — I'm sorry, to the end user?

A. Sending a page is one way to publish a hostname, but there are many ways to publish a hostname.

Q. And Limelight has contracts with its customers, does it not, sir?

A. We do.

Q. And those contracts require the customer to use certain things that Limelight provides to them, does it not?

A. I don't think we require our customers. I know that we have security provisions and things and use policy, but I don't think our customers are required to use us for anything.

Q. Let's look at Exhibit 429.

MR. KRUPKA: We didn't get a notebook, your [120] Honor, with the cross examination exhibits.

MR. FRANK: We didn't give him a notebook, that's true.

THE COURT: Are you going to have a lot of exhibits?

MR. FRANK: I will have several. I will try to do this in a way that does not slow things down.

Q. What is Exhibit 429, sir?

A. Actually, I don't know.

Q. Let's look at the page that begins with the last three digits 950. Do you recognize what appears on that page as part of a standard form Limelight contract?

A. Looks like an contract. I don't believe it's the complete contract.

Q. Look at Section 1 that's headed "Content Distribution Service, or CDS." Do you see that?

A. Yes.

Q. "Content Distribution Service or CDS means the distribution of content via a company supplied equipment." The company there is Limelight?

A. That is correct.

Q. And the customer is whoever the customer is; is that correct?

A. That is correct.

Q. Section 2 describes customer' responsibilities. Do [121] you see that?

A. That is correct.

Q. The second sentence in Section 2 says: "Customer shall provide Company with all cooperation and information reasonably necessary for Company to implement the content delivery service." Do you see that?

A. I see that.

Q. Now, could you skip down about four lines, the sentence that begins in the middle of the paragraph that says: "Customer shall be responsible for identifying via the then current company process all uniform resource locators of the customer content to enable such customer content to be delivered by the Company".

What that is saying, is it not, sir, is that the customer is to use Limelight's processes to deliver, to identify the content that is to be delivered by Limelight?

A. No. What that's saying is that if the customer wants us to deliver content for them, then they have to use one of the things we use. It doesn't mean —

Q. Okay. If the customer wants Limelight to deliver content for Limelight, it must use the Limelight hostname that we saw before one way or the other, one way or the other, the prepend method or the CNAME'ing?

[122]

A. We won't see a request for that content if they don't, if the Limelight hostname is not somehow involved in the process.

Q. Okay. And, therefore, if the customer wants Limelight to deliver content for it, the customer must use the Limelight hostname. Are we in the same place?

A. Yes. If they want us to deliver content, for them, they have to use their assigned customer hostname or hostnames.

Q. Now, of course, the customer can choose to use any other service that the customer wants; is that correct?

A. Yes, absolutely.

Q. But we're not in court here talking about uses other than the Limelight network. Whenever the Limelight network is used, the Limelight hostname must be used, correct?

A. If that's what the customer wants, that's what he has to do.

Q. If the customer chooses to purchase the Limelight service, the only thing the customer can do is use the Limelight hostname, correct?

A. That's what the customer has to do, yes.

* * *

LIMELIGHT NETWORKS

Proposal
For
Content Distribution Services
Prepared for:

<Customer Name>

* * *

ContentEdge™

Object Delivery, Software Downloads, and HTTP Progressive Downloads

ContentEdge™ provides the scalability and increased performance of an edge delivery service (commonly known as a CDN service) with a price-point typically associated with straight bandwidth. Designed to fit any budget, ContentEdge is easily deployed to accelerate rich object delivery and downloads. Through the use of a CNAME, Prepend URL or simple FTP, sites will experience faster downloads, quicker page requests, optimized server performance and immediate savings. ContentEdge delivers images for e-commerce sites, software updates, media players, banner ads and file downloads for online media retailers.

Content Origin

Content can either be hosted on a customer's server or Limelight Networks can host content and act as the origin. There are pros and cons of each solution. The key benefits of having Limelight act as origin include:

- Control of the "pipe" used to access the original content.
- Redundancy – if a customer acts as the origin and the "pipe" used to access the content goes down, consumers won't be able to access that content. In our network content is redundant and if a POP goes down, consumers can still access the content.

Customer Origin

Below are the steps a customer would take if he or she were to act as the origin for content:

1. Limelight Networks will provide the content provider with a hostname like xyz.vo.llnwd.net.
2. This unique identifier is used by ContentEdge to identify a particular content provider and find the appropriate URL.
3. The content provider sets up a CNAME record within their DNS that points back to the hostname Limelight Networks provided them.
4. The content provider uses this CNAME to recreate the URLs on his or her site so it points back to the ContentEdge servers.
5. If our servers do not have the requested content cached at the edge of the Internet, the server will request the content from the origin.
6. While content is being delivered to the consumer, the content is simultaneously cached to improve the chances for a future cache hit.
7. If the server already had the object in cache, the HTTP headers are sent to the origin server for validation but the object is served directly from the edge server.

* * *

LIMELIGHT

PROCESS DOCUMENT

Limelight Networks CDN Prepend Order Procedures

V1.0
February 21, 2002

Please use this process to install any new customer that will use the Limelight **ContentEDGE** (caching) service ***without*** a CAM.

Please use the form at:

http://forms.llnw.com/forms/ordercdnprepend.cgi

Please fill out all of the information the form requests. Incomplete forms will not be processed!

The web form is the FIRST STEP in the sales order/ contract process. When you fill out the web form, a WebRT ticket is automatically generated in the "New Customer Turn-up" queue. This ticket is immediately routed to engineering for assignment and review. Once the review of the ticket is complete the assigned engineer will send an email (via the WebRT system) to the originator of the ticket with approval/ disapproval.

Using the Limelight Networks Prepend URL

For those customers who do not wish to use a SiteCAM, they may still take advantage of the LLNW CDN by using a custom LLNW prepend URL. The prepend URL is a unique composition of standard information and proprietary fields that are "munged", or encrypted and then pre-pended to the standard URL.

The way a customer uses the LLNW prepend is similar to how other CDN's (like Akamai, for example) use a specialized URL to re-direct requests for objects to their edge servers. The customer will receive a prepend URL from LLNW that will be similar to the URL in Figure 1. The customer will then use the prepend URL to replace all of the URL's in their HTML source code that refer to the objects they wish to cache on LLNW's CDN. Once the customer's HTML source is modified, every reference to an object that uses the LLNW prepend URL will be cached and delivered by the LLNW CDS (Content Delivery Server) located at the edge of the network.

http://llnw.vo.llnw.net/llnw_cdn/0105cABAAQQAAAAEDRce1MLf1SNLW8NngvrOUpcsCixGcxB.ajSDF011ROH8lZJ86SOZOkR5ZZhDNuOpC_BJobqEELEvdcADp/

Figure 1 – The LLNW Prepend URL

The following HTML code is an example of a reference to a GIF object in HTML source.

SRC=http://ilimg.com/images/home_page/bullet_black.gif

The "SRC=" portion of the HTML code is referred to as the "tag". The customer will search their HTML source code for these tags. The rest of the URL . . .

http://ilimg.com/images/home_page/bullet_black.gif

. . . is the full path (URL) to the GIF object. To use the LLNW prepend, the customer will use the supplied LLNW prepend to change all references to "http://ilimg.com/" in the "SRC=" tags to the LLNW prepend. When completed, the modified HTML code will look like this:

SRC=http://llnw.vo.llnw.net/llnw_cdn/0105cABAAQQ
AAAAEDRce1MLf1SNLW8NngvrOUpcsCixGcxB.aj
SDF011ROH81ZJ86SOZOkR5ZZhDNuOpC_BJobq
EELEvdcADp/images/home_page/bullet_black.gif

* * *

Order Process Flow

Sales is responsible for gathering all necessary information from customer. All information above is required before any further processing of the order can occur! Please be sure to get complete and accurate information.

If any additional clarification is needed, or if customer has special needs, Sales will contact the Sales Engineers or Engineering. If appropriate, please arrange to have Nathan, Larry, or one of the engineers present at any customer meetings or conference calls.

Once all information is gathered and order is ready to be submitted, Sales will complete all necessary contracts, order forms, addendums, and any additional information gathered. All this information will be turned over to Sales Engineering.

Sales Engineering will enter all order information into the "CDN Order From" on http://forms.llnw.com. The order tracking system will then create a ticket number for tracking. This ticket number will be written on the paper order form, and passed on to the Salesperson responsible for the order. **All further references/changes/additions/etc MUST be entered into the order tracking system, or THEY WILL NOT BE SEEN BY ENGINEERING.**

Sales Engineering will then pass all written documentation to Billing (Mike Godlewski.)

Once the New Customer Install ticket is in the system, Engineering will review all of the information in the ticket, perform any necessary testing, analysis, etc, and will notify Sales that the order has either been accepted or rejected. If the order is rejected for any reason then it is the responsibility of Engineering to completely document the reasons and to communicate them to Sales.

Once the order is accepted, Engineering will generate the custom prepend URL for the customer. Engineering will be responsible for testing the new URL's to make sure they are correct.

Once the new customer prepend URL is delivered to the customer, the customer must modify their HTML source code to insert the LLNW prepend URL for any objects that they wish to have cached on the CDN. Sales Engineering will work with the customer on any issues and will coordinate with Engineering if there are any problems, issues, etc.

Once the customer have completed the modification of their HTML source code, the LLNW custom prepend URL solution is ready. The customers objects will begin to populate the CDN automatically.

Once the site is up and running, Engineering will update the following systems:

Network monitoring of customer port (NetSaint)

MRTG usage graphs

MRTG billing graphs and 95/5 gathering/billing scripts

MRTG usage summary graphs

Engineering will inform Billing (Mike Godlewski) that the new customer site is live, and at that point the customer is ready to start billing.

CDN Welcome Letter
From Llnw

Hello!

Your Limelight Networks CDN account is ready for use. Here are the FTP and URL details:

HTTP:

hostname: origin2.llnw.net
username: shortname-ht
password: password
HTTP Prepend Url: http://shortname.vo.llnwd.net/o2/

Windows Media On-Demand:

hostname: origin2.llnw.net
username: shortname-wm
password: password
WMOD Prepend URL: mms://shortname.wmod.llnwd.net/aXXX/o2/

Quicktime On-Demand:

hostname: origin2.llnw.net
username: shortname-qt
password: password
QTOD Prepend URL: rtsp://shortname.qtod.llnw.net/aXX/o2/

Real Media On Demand

hostname: origin2.llnw.net
username: shortname-rm
password: password

Live Windows Media Publishing

The URL is: http://shortname.wm.llnwd.net/streaming_point_name

This URL is meant to be used in a Windows Media .ASX meta file or Embedded player and not directly HREF'd from your web site to launch the stream. An example of a Windows Media .ASX file follows:

```
<ASX version = "3.0">
    <ENTRY>
        <TITLE>Company Name</TITLE>
        <AUTHOR>Company Name</AUTHOR>
        <COPYRIGHT>(c)2006 Company Name</
        COPYRIGHT>
        <REF HREF="http://shortname.wm.llnwd.net/
        streaming_point_name"></REF>
        <REF HREF="mms://shortname.wm.llnwd.net/
        streaming_point_name"></REF>
        <REF HREF="rtsp://shortname.wm.llnwd.net/
        streaming_point_name"></REF>
    </ENTRY>
</ASX>
```

You would save this information into a file with the .ASX extension and then HREF that file from your web site as the 'Listen Live' link to the stream. You can test the file by launching it locally with Windows Explorer file manager or saving it on your desktop and double-clicking on it.

Media Vault

Windows Media On Demand:

mms://shortname.wmod.llnwd.net/subfolder/secure/

Is secure and has a shared secret of (shared secret)

mms://shortname.wmod.llnwd.net/subfolder/unsecured

Is not secured

Example URLs:

SECURE URL: mms://shortname.wmod.llnwd.net/subfolder/industrial.wmv?e=1132764717

UNSECURE URL: mms://shortname.wmod.llnwd.net/subfolder/industrial.wmv

HTTP:

http://shortname.vo.llnwd.net/subfolder/secure

Is secure and has a shared secret of (shared secret)

http://shortname.vo.llnwd.net/subfolder/unsecured

Is not secured

Example URLs:

SECURE URL: http://shortname.vo.llnwd.net/subfolder/welcome.txt?e=1132764642

UNSECURE URL: http://shortname.vo.llnwd.net/subfolder/welcome.txt

Your reporting login is also ready. Here are the details:

URL: http://reports.llnw.com
username: shortname
password: password

If you should have any problems or questions with your reports or services, we are very happy to help!

Limelight Networks Support

Limelight Networks runs a 24/7 support organization for our customers. Here are the preferred methods to contact Limelight Networks:

EMAIL*

proserv@limelightnetworks.com – all issues that are not outages or severe service relating issues. Please use this for all changes, reporting or other questions that are not critical to your service.

support@limelightnetworks.com – all outage or severe service related issues.

When anyone (either a customer or a Limelight Networks (LLNW) employee) initiates a trouble ticket, an LLNW engineer will be paged, the ticket will be assigned, and depending on the severity of the ticket, the LLNW engineer will take the appropriate actions necessary to resolve the cause of the problem.

When reporting a new issue, please send a fresh email so that the incident can be tracked properly. If you simply reply to an old ticket, the issue will not page an LLNW engineer, and may go unnoticed for some time.

When responding to a ticket, please be sure that the subject line stays intact, so that it can be tracked properly by our ticket system. If you send a reply and change the subject, removing the ticket number, you will create a new ticket and page an LLNW engineer.

PHONE

Customers can also contact LLNW Support via phone at 866-LIGHT-30 or 602-850-5200. In the event that all customer service personnel are on the line assisting other customers, please leave a detailed message with the name of your organization, contact information, and description of the issue requiring support.

By sending an email a ticket will automatically be created and emailed back to the customer. Please use this reply email for all future correspondence on the issue. This will ensure that all correspondence will be tracked in the same ticket. Limelight Networks will email or telephone a response to customers within 60 minutes. Failure to contact Limelight Networks NOC by the above phone numbers and/or email may lead to a delay in resolution of an issue.

Problem Flow

1. Trouble is reported

2. Trouble ticket opened (If not already done so by the customer/ See Above Detail)

3. Technical Support searches for existing problems that may be causing trouble

4. Ticket is passed to engineering

5. Engineering resolves problem

6. Customer is called or email with resolution and receives confirmation that problem is solved

7. Ticket is closed

Escalation

If you are not getting the results you desire from Limelight Networks Support, you can escalate your problem at any time simply by contacting your Account Manager or Limelight Networks Sales Executive.

That representative will contact the appropriate level of LLNW management to escalate your issue and assist in the resolution.

Thank you for choosing Limelight Networks.

[Image Omitted]

Delivering the Digital Lifestyle

Limelight Networks
Media Content Distribution Services
Installation Guidelines

LIMELIGHT NETWORKS

[Table Of Contents Omitted]

Overview

Limelight Networks' Content Delivery Network (CDN) is built to support global distributed delivery of rich media to audiences of any size. Limelight is unmatched as the industry's most efficient high-performance delivery provider for large libraries, large files and large audiences. The infrastructure is designed to deliver media and entertainment content to a complete range of IP-enabled devices, like personal computers, cell phones, music players, game consoles, set top boxes and other devices.

This highly scalable delivery is achieved through:

- Unmatched total egress capacity
- Automated and seamless routing to the closest (in network routing terms) Limelight

Networks CDN center

- Massive global distributed peering and direct broadband network connectivity

Our delivery services provide our customers with the ability to mix and match any combination of download (HTTP), streaming or custom CDN services, as desired. Limelight Networks also provides its customers with security and storage, two key services that ensure content is delivered to each customer's specifications.

In summary, Limelight Networks is the highest performance content delivery network for digital media. Limelight's massively scalable delivery solutions are uniquely tailored for those doing distributed on-demand and live delivery of video, music, games and downloads to broadband and mobile users. Limelight leads the industry in *Delivering the Digital Lifestyle*™.

Part of our goal as a premier CDN is to provide a seamless and smooth integration of our services into your business. From delivery to storage to reporting, our implementation should minimize the impact of your transition to Limelight to your business. This document outlines the steps and information needed to accomplish this goal, and bring your content to your end-users as quickly as possible.

Welcome to Limelight Networks.

Installation Guidelines – The Process

Your account creation and service installation is managed by a dedicated Technical Account Manager (TAM). As part of our turn-up process, the TAM will coordinate between your technical team and our engineers to ensure a quick and complete implementation of your services. The TAM will confirm all account information and gather any additional information needed in order to complete the turn-up.

Once the information required to create a complete account is received, the TAM will process the order through our Operations and Engineering teams. They will track the progress of the order and seek any additional items needed to ensure a successful and complete implementation.

The TAM will work with the engineering team, while they set-up the storage needs, publishing points, ftp sites/logins, reporting access and integration, and complete quality assurance (QA) testing of the service prior to providing the customer with the account information.

The average installation/implementation of Limelight's services requires 7 business days for account completion and testing, from the time full account details are received from the customer.

Once installation and QA is complete, you will receive a Welcome Letter from Limelight Networks (LLNW) outlining all applicable items from the following list:

- FTP login information for your StorageEdge Network Storage
- CNAME or Prepend URL to integrate into your webpages
- Limelight User Exchange (LUX) Reporting Login and Password
- Any sample code such as asx or Flash player code
- Any publishing points for live streams
- Any shared secrets required for MediaVault authentication

- Support information for direct contact with our Network Operation Center (NOC)

Products and Services

Limelight ContentEdge – HTTP Delivery Service

ContentEdge HTTP Delivery Service has two basic variations in the delivery and caching configuration:

1) Customer's data remains on their own storage device and we access the library from the customer's servers

or

2) Limelight serves as storage for the customer's origin/library.

Information that we will request PRIOR to account creation is as follows:

Limelight ContentEdge: CNAME/Customer Origin

1. Published CNAME that Customer chooses to use
2. Hostname of the server hosting the content
3. Maximum Library Size
4. Average File Size
5. Approximate Number Of Files
6. Types of Files
7. Expected Monthly Traffic during the first six (6) months

The customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

i) Update customer DNS with new CNAME(s).

ii) Update web site links to use new LLNW published CNAME(s).

Limelight ContentEdge: Limelight Origin (Prepend)

1. Maximum Library Size
2. Average File Size of the objects delivered
3. Approximate Number Of Files
4. Types of Files
5. Expected Monthly Traffic during the first six (6) months

The customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

i) Upload content to your LLNW FTP location.

ii) Update web site links to use new LLNW URL.

Limelight MediaEdge Streaming: Live Streaming

MediaEdge Live Streaming Service has two basic variations used to capture of the video feed from the customer:

1) **Pull** – Limelight will seek out the Customer's seed stream from a designated point on the customer's network

or

2) **Push** – Limelight will create a publishing point to which the customer will send their seed stream.

The type of feed, Pull or Push, is dependent on the format being streamed.

Information that we will request PRIOR to account creation is as follows:

Pull Configuration

1. Media Type/Format }
2. IP Address For Encoder } For 'pull' stream
3. Port }
4. 1 Or 4 Seed Streams }
5. Number Of Source Feeds }
6. Suggested Stream Name }
7. Expected Traffic

The customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

i) Update web site links to use new LLNW URL.

Push Configuration

1. IP Address For Encoder } For 'push' stream
2. Port }
3. Suggested Stream Name }
4. Expected Traffic }

The customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

i) Initiate encoder to push to publishing point.

ii) Update web site links to use new LLNW URL.

Limelight MediaEdge Streaming: On-Demand Streaming

MediaEdge On-Demand Streaming Service generally requires that Limelight serves as origin for your content/objects. Custom configurations are available, please speak with your LLNW Business Development Manager for details.

Information that we will request PRIOR to account creation is as follows:

Limelight MediaEdge Streaming – Limelight Origin

1) Maximum Library Size

2) Average File Size

3) Approximate Number Of Files

4) Expected Monthly Traffic during the first six (6) months

The customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

a) Upload content to customer LLNW FTP location.

b) Update web site links to use new LLNW URL.

Limelight MediaVault: Hash-based Authentication

MediaVault MD5 Service has two basic variations to provide flexibility and control for the customer's URL generation:

1) Globally Secured

or

1) Partitioned Secured/Unsecured

Information that we will request PRIOR to account creation is as follows:

Customer will need to suggest a 'shared secret' that will be used as the basis for the hashing for the MediaVault protected URL's.

Once that is received and integrated into the service, the customer will need to do the following to complete the transition to the Limelight Network CDN that has been configured:

a) Develop code to create URL's with media vault hash.

b) Update web site code to use URL's generated by newly developed code.

For additional information on MediaVault code and set-up, refer to Limelight Networks MediaVault Technical Paper.

Communications

Pre-Installation Support

Limelight Networks Technical Account Managers (TAMS) are available 8:30 am to 5:30pm Mountain Standard Time – Monday thru Friday. TAMS are available outside scheduled hours with advance notice.

Your assigned TAM will provide you with their direct line and email address. But in cases of emergency and expedited situations, you may also contact our queues for additional support.

EMAIL

Implement@limelightnetworks.com – all outage or severe service related issues.

PHONE

Customers can also contact Limelight TAMS via phone at **602-850-5353**. In the event that all TAMS are on the line assisting other customers, please leave a detailed message with the name of your organization, contact information, and description of the issue requiring support. Within normal business hours, one of our TAMs will respond within an hour to your message.

Post Installation Support – Network Operations Center

Limelight Networks Network Operations Center (NOC) operates a 24/7 support organization for our customers.

The NOC is available 24/7 to help you with any service, technical or reporting issues you may encounter. They can be reached two ways:

EMAIL: **support@limelightnetworks.com** will log a ticket and provide a response within an hour.

PHONE: dial **602-850-5200** or **866-LIGHT-30** and technicians are available to help you. If you call and are asked to leave a voice message, we recommend that you do. It means that our technicians are on calls with other customers, and they will be paged immediately by your voicemail message.

[PLAINTIFF'S EXHIBIT 429]

[Image Omitted]

Limelight Networks

* * *

Billing

Turn-up

Installation timeframe depends on execution of contract. Standard turnaround for basic CDN orders is seven business days, which may be augmented due to order specifics.

Detailed Billing

Limelight Network is able to generate individual line items based on any subset of data (within a service type) delineated by a common left-string at the content store. That breakdown would include storage and bandwidth usage.

Contract Length

The general contract length is one year. This is negotiable.

Re-negotiating contracts

Customers have the option to upgrade their commitment level anytime during the life of the agreement. We do not penalize customers by charging overage premiums or additional fees for traffic usage above and beyond their monthly minimum commitment level.

Reporting

Access to usage information

LUX is a web-based premium reporting package that provides aggregated statistical information on a

near-real-time basis (3-5 minutes from log-entry) for day, week and month time periods and provides full log access for request-specific data on either a 15 minute delayed basis.

Available reports

Report Features for the functionality of the screens that generate the following reports:

- Day of Week
- Hour Of Day
- File Size (for on-demand services)
- File Type
- Duration
- Missing Files
- Top URLs
- Top Directories
- User Agent

Each report provides a graph as well as the textual form of the data used to generate that graph. As you can see in the figure below, the data can be displayed with any of the data points in either bar or pie graph form.

The "add to dashboard" option allows you to save the graph to your dashboard so that it will greet you every time you enter LUX. The "set as default for this report" option allows you to save your settings (bar vs pie, requests/bytes/users/seconds, label length) so that every time you bring up graph in the system it will display the data in the format of your choice.

* * *

8.0 Others

8.1 SLA — Limelight Networks provides a 100% SLA for content on our network:

LIMELIGHT NETWORKS, INC.

SCHEDULE FOR CONTENT DISTRIBUTION SERVICE

1. "Content Distribution Service or CDS" means the distribution of content via Company Supplied Equipment or other process that allows delivery of the Customers Content from any Content Distribution Centers that do not use the Customers origin or source server as the primary distribution source to the Internet.

2. Customer Responsibilities. Customer is solely responsible for all HTTP, streaming media and application content, including any third party content, identified to Company for delivery via the Company Network ("Customer Content"), including maintaining backup thereof. Customer shall provide Company with all cooperation and information reasonably necessary for Company to implement the CDS. Customer owns all right, title and interest in the Customer Content or possesses the necessary rights in the Customer Content to enable the Customer Content to be delivered by Company under this MSA. Customer shall not identity for delivery by the Company Network any Customer Content that Customer knows or has reason to know violates the AUP or otherwise violates any laws or regulations relating to content or content distribution. Customer shall be responsible for identifying via the then current Company process all uniform resource locators ("URLs") of the Customer Content to enable such Customer Content to be delivered by the Company Network. Customer shall be solely responsible for maintaining and operating its web sites, the availability of its web sites, the connectivity of its web sites to the Internet, IP addresses, domain names, hyperlinks, databases and other resources

used by Customer to operate and maintain its web sites. This MSA does not create a bailment of Customer Content and Company shall not be deemed a carrier, bailee, or warehouseman of any Customer Content.

3. **Service Level Warranty.** If Customer experiences any of the service performance issues defined in this Paragraph 3 as a result of Company's failure to provide CDS, then Company will, upon Customer's request in accordance with Paragraph 3.4, credit Customer's account as described below (the "Service Level Warranty"). Notwithstanding anything to the contrary in this Schedule B, the Service Level Warranty set forth herein shall only be available to Eligible Customers.

3.1. ***CDS Availability.*** Service Availability for CDS is defined as the ability to redirect and deliver the requested Customer Content in Company-approved formats for delivery to the Internet from a Content Distribution Center. This may be measured at two locations; first at the Customer location for any Company Provided Equipment and second at the Content Distribution Centers. Company Provided Equipment that may be required for implementation of the CDS and will be measured by sending ICMP "ping" bursts to the Company Provided Equipment at regular intervals. The response of the Company Provided Equipment to the ping burst confirms that the Company Provided Equipment is still in place and the Service is still available. The Content Distribution Centers will be measured for packet loss of the specific servers delivering the Customer content. If the specific server or the Content Distribution Center has sustained packet loss in excess of fifty percent (50%) to the Internet, then the CDS will be consid-

ered down. The Company guarantees 100% total Service availability to deliver content to the Internet. If Customer site experiences unavailability of the Service as a result of either of the described failure points (Service interruption), then Company will issue a credit based on the length of the outage. Service interruptions caused by Company planned network maintenance activities, maintenance at Customer premises, failure of customer premises hardware or software, failure of Customer origin server (equipment down, not serving content, broken links or similar issues that would prevent the Service from working successfully, failure of Customer controlled actions and environment (for example power failure, temperature increases, firewall blocking, unplugging the Company Provided Equipment etc.) are ineligible for availability guarantee compensation.

3.1.1. ***Service Availability Credits.*** Service availability credits are determined in accordance with the following guidelines (a) any outage greater than thirty- (30) minutes = one (1) day credit of Service Charges and (b) any outage continuing for greater than sixty- (60) minutes = one (1) days credit of Service Charges per sixty- (60) minutes period.

3.2. ***Network Latency.*** Network Latency is defined as the average time taken for an IP packet to traverse a pair of backbone Company POP's on the Company Network. The Company Network Latency Guarantee means that the average monthly network latency between North American Company POP's shall not to exceed eighty five (85) ms.

3.2.1. ***Network Latency Credit.*** If the guaranteed network latency metrics are not met during any one calendar month period, then Company will provide a credit equivalent to one (1) day of Service Charges.

3.3. ***Packet Loss.*** Packet loss is defined as the percentage of packets that are dropped between routers that are part of the Company Network. Company guarantees that the average packet loss will not exceed one percent (1%) during any calendar month.

3.3.1. ***Packet Loss Credit.*** If the packet loss metrics are not met during any one-calendar month period, then Company will provide a credit equivalent to one (1) day of Service Charges.

3.4. ***Calculation and Maximum Credit.*** One (1) day of Service Charges shall be equal to 1/30th of the committed monthly Service Charges of Customer. A maximum of seven (7) days of credit may be provided during any single month. At no time will the actual outage time be greater than the equivalent Service Availability Credit.

3.5. ***Service Credit Process.***

3.5.1. ***Filing Period.*** Service Availability and/or Service Interruption claims must be submitted to Company within seven (7) calendar days of the occurrence of the event. Network Latency and Packet Loss claims must be submitted not later than thirty- (30) calendar days after the last day of the month in which the failed metric occurred.

3.5.2. ***Required Information.*** Each claim must be filed by Customer's Administrative Contact and the claim must include the following information: (a) Customer name and site name, (b) contact's name and contact information, (c) date and beginning/end time of outage or failed metric, and (d) the specific Company support ticket number opened about the performance issue and brief description of the characteristics of the outage or failed metric.

3.5.3. ***Claim Process.*** Customer must submit the required information by electronic mail to slaguarantee@limelightnetworks.com. Company will acknowledge all claims within five (5) business days and will review all claims within ten (10) business days of receipt. Customer will be informed by electronic mail whether the appropriate service credit claim will be granted or rejected. If rejected, the notification will specify the basis for rejection.

3.5.4. ***Credit Process.*** Approved Service Level Guarantee credits will be applied to the Customer's billing during the billing cycle following the month in which the claim was approved.

3.5.5. ***Policy Change.*** Company reserves the right to change, amend, or revise this policy at any time with or without notice to Customer.

3.5.6. ***The Service Level Warranty*** set forth in this Schedule B shall only apply to the CDS, does not apply to any other Services. This Schedule B states Customer's sole and exclusive remedy for any failure by Company to provide CDS.

8.2 Technical Support

Limelight Networks provides 24/7 technical support via email (support@llnw.com) or via phone at (602) 850-5000. Limelight Support Engineers are constantly monitored and assessed to assure you receive a prompt and professional response.

9.0 Optional

Media streaming support on the CDN – yes; Limelight supports Real, QuickTime, Flash, HTTP, Windows Media, MP3

Media streaming solution – see above solution proposed by Limelight Networks, Inc.

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06-11109-RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

QUESTIONS TO THE JURY ON SPECIAL VERDICT

February 28, 2008

ZOBEL, D.J.

I. PATENT INFRINGEMENT

Akamai's Burden of Proof – Preponderance of the Evidence

1. Does Limelight infringe one or more of the following claims of the '703 patent using the prepend method?

   a. Claim 19: YES _X_ NO ___

   b. Claim 20: YES _X_ NO ___

   c. Claim 21: YES _X_ NO ___

   d. Claim 34: YES _X_ NO ___

Please answer next Question 2.

2. Does Limelight infringe one or more of the following claims of the '703 patent using the CNAME method?

   a. Claim 19: YES _X_ NO ___

   b. Claim 20: YES _X_ NO ___

   c. Claim 21: YES _X_ NO ___

   d. Claim 34: YES _X_ NO ___

If the answer is YES to one or more claims in either Question 1 or Question 2, please answer next the corresponding parts of Questions 3 through 7.

If the answer is NO as to all claims in both Question 1 and Question 2, please return your verdict to the court.

II. PATENT VALIDITY

Limelight's Burden of Proof – Clear and Convincing Evidence

Anticipation – each element only in ONE filing

3. Are one or more of the infringed claims of the '703 patent invalid because the claimed service or method was anticipated by a single prior art reference?

   a. Claim 19: YES ___ NO _X_

   b. Claim 20: YES ___ NO _X_

   c. Claim 21: YES ___ NO _X_

   d. Claim 34: YES ___ NO _X_

Obviousness – from all knowledge

4. Are one or more of the infringed claims of the '703 patent invalid because the claimed service or method was obvious to an ordinary person skilled in the art at the time the invention was made based on one or more prior art references?

   a. Claim 19: YES ___ NO _X_

   b. Claim 20: YES ___ NO _X_

   c. Claim 21: YES ___ NO _X_

   d. Claim 34: YES ___ NO _X_

Written Description

5. Are one or more of the infringed claims of the '703 patent invalid for failing to satisfy the written description requirement?

   a. Claim 19: YES ___ NO _X_

   b. Claim 20: YES ___ NO _X_

   c. Claim 21: YES ___ NO _X_

   d. Claim 34: YES ___ NO _X_

Enablement

6. Are one or more of the infringed claims of the '703 patent invalid for failing to satisfy the enablement requirement?

   a. Claim 19: YES ___ NO _X_

   b. Claim 20: YES ___ NO _X_

   c. Claim 21: YES ___ NO _X_

   d. Claim 34: YES ___ NO _X_

Definiteness

7. Are one or more of the infringed claims of the '703 patent invalid for failing to satisfy the definiteness requirement?

   a. Claim 19: YES ___ NO _X_

   b. Claim 20: YES ___ NO _X_

   c. Claim 21: YES ___ NO _X_

   d. Claim 34: YES ___ NO _X_

If you found infringement of one or more claims and also that those claims are valid, please answer next Question 8 concerning damages. That is, if you answered YES to one or more parts of Question 1 or Question 2, and NO to each corresponding part of Questions 3 through 7, please answer next the following question concerning damages.

If you found that all infringed claims are invalid, that is if you answered YES to at least one of Questions 3 through 7 for each infringed claim, please return your verdict to the court.

III. DAMAGES

Akamai's Burden of Proof – Preponderance of the Evidence

Dates for Determination of Damages

8. Did Akamai provide, offer for sale or sell to the public a tangible article to mark by which notice of the asserted claims could have been given?

   YES ___ NO _X_

If the answer is YES, please answer the damages questions below based on an infringement period from July 1, 2006 through December 31, 2007.

If the answer is NO, please answer the damages questions below based on an infringement period from April 2005 through December 31, 2007.

If you found at least one claim of the '703 patent valid and infringed using the prepend method and at least one claim of the '703 patent valid and infringed using the CNAME method, please answer next Question 9. That is, if the prepend method and the CNAME method both infringe at least one valid claim of the '703 patent, please answer next Question 9.

If you found that either the prepend method does not infringe any valid claim of the '703 patent or that the CNAME method does not infringe any valid claim of the '703 patent, please answer next Question 12. That is, if either the prepend method or the CNAME method is a non-infringing alternative, please answer next Question 12.

Alternate Damages Calculation 1
Lost Profits Plus Reasonable Royalty on the Remainder

9. Has Akamai proven lost profit damages as a result of Limelight's infringement?

YES _X_ NO ___

If the answer is YES, please answer next Question 10.

If the answer is NO, please answer next Question 12.

10. What is the amount of Akamai's lost profits?

$39,315,687 + 786,313 = $40,102,000

Please answer next Question 11.

11. What is the amount of the reasonable royalty to which Akamai is entitled in addition to its lost profits damages? Collateral sales

$1,424,946

Please answer next Question 13.

Alternate Damages Calculation 2
Reasonable Royalty Damages on All Infringing Sales

12. If Akamai is not entitled to recover lost profit damages, what is the amount of the reasonable royalty which Akamai is entitled to recover on Limelight's infringing sales?

$_____

Please answer next Question 13.

Pre-Judgment Interest

13. Should Akamai receive pre-judgment interest on the amounts determined in Questions 10, 11 and/or 12?

YES _X_ NO ___

Please answer next Question 14.

Price Erosion

14. Did Akamai prove that it suffered price erosion as a result of Limelight's infringement?

YES X NO ___

If the answer is YES, please answer next Question15.

If the answer is NO, please return your verdict to the court.

15. What is the amount of Akamai's price erosion damages?

$4,000,000

2/29/2008

/s/ JAMES RANIERI
FOREPERSON
(James Ranieri)

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 06 CV11109 RWZ
Civil Action No. 06 CV11585 RWZ

AKAMAI TECHNOLOGIES, INC., ET AL.,
Plaintiffs,

v.

LIMELIGHT NETWORKS, INC.,
Defendant.

FINAL JUDGMENT

Pursuant to Federal Rule of Civil Procedure 58, the Court hereby enters Final Judgment in this action as follows:

(1) For the reasons stated in the Court's April 24, 2009 Memorandum and Order, Limelight does not infringe claims 19, 20, 21 and 34 of U.S. Patent No. 6,108,703 (the " '703 patent").

(2) For the reasons stated by the Court when granting Limelight's Motion for Summary Judgment, and in view of the Court's construction of the claims of U.S. Patent No. 6,553,413 (the " '413 patent"), Limelight does not infringe claims 8-12, 18 and 19 of the '413 patent.

(3) By reason of Akamai's stipulation, in view of the Court's construction of the claims of U.S. Patent No. 7,103,645 (the " '645 patent"), that it cannot prove infringement of the '645 patent, Limelight does not infringe the '645 patent. When so stipulating, Akamai expressly reserved all rights of appeal, includ-

ing its right to challenge the Court's claim constructions and Limelight agreed that in the event that the Court's construction of the claims of the '645 patent were to be altered or overturned on appeal, Akamai would be free to reassert its claim of infringement of the '645 patent.

(4) By reason of the jury's verdict and the Court's rulings on Limelight Networks, Inc.'s Motion For Judgment As A Matter Of Law and its Motion For Judgment Of Obviousness and in view of the Court's construction of the claims of the '703 patent, claims 19, 20, 21 and 34 of the '703 patent are not invalid on any of the grounds stated in 35 U.S.C. §§ 101, 102, 103 or 112; and, accordingly, Limelight's Counterclaim seeking a declaration of invalidity is dismissed with prejudice.

(5) For the reasons stated in the Court's April 24, 2009 Memorandum and Order, Limelight's Counterclaim seeking a declaration of unenforceability of the '703 patent is dismissed with prejudice.

(6) Except as provided above, Limelight's Counterclaims regarding the '645 patent, the '413 patent and the claims of the '703 patent other than claims 19, 20, 21 and 34 of the '703 patent are dismissed without prejudice.

Because there are no further pending claims remaining in this action, judgment is entered in favor of Limelight, and this action is hereby dismissed. The dismissal is with prejudice, except as provided above in paragraph (6). Costs are awarded to neither party.

AKAMAI TECHNOLOGIES, INC., and MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

By their attorneys:

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Dated: May 14, 2009

IT IS SO ORDERED.

Dated: May 22, 2009

/s/ RYA W. ZOBEL

Hon. Rya W. Zobel
United States District Judge

Supreme Court of the United States
Office of the Clerk
Washington, DC 20543-0001

SCOTT S. HARRIS
Clerk of the Court
(202) 479-3011

January 10, 2014

Mr. Aaron M. Panner
Kellogg, Huber, Hansen, Todd,
Evans & Figel, P.L.L.C.
1615 M Street, N.W.
Suite 400
Washington, DC 20036

Re: Limelight Networks, Inc.
v. Akamai Technologies, Inc., et al.
No. 12-786

Dear Mr. Panner:

The Court today entered the following order in the above-entitled case:

The petition for a writ of certiorari is granted. Justice Alito took no part in the consideration or decision of this petition.

Sincerely,

/s/ SCOTT S. HARRIS

Scott S. Harris, Clerk

PETITIONER'S BRIEF

AMER
RECORDS
AND
BRIEFS

Supreme Court, U.S.
FILED
FEB 24 2014
OFFICE OF THE CLERK

No. 12-786

IN THE
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF FOR PETITIONER

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February 24, 2014

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QUESTION PRESENTED

Akamai holds a patent claiming a method involving redirecting requests for Internet content and selecting optimal servers. The Federal Circuit acknowledged that neither Limelight nor customers using Limelight's service directly infringe Akamai's patent under 35 U.S.C. § 271(a) because no one performs all the steps of the patented method. App. 6a, 30a. The Federal Circuit nevertheless held that Limelight could be liable, under 35 U.S.C. § 271(b), for inducing infringement if (1) it knew of Akamai's patent; (2) it performed all but one of the steps of the method; (3) it induced its customers to perform the final step of the claimed method; and (4) the customers performed that step. App. 30a. The question presented is:

Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no one has committed direct infringement under § 271(a).

PARTIES TO THE PROCEEDINGS

Petitioner Limelight Networks, Inc. was the defendant and the cross-appellant below.

Respondents Akamai Technologies, Inc. and the Massachusetts Institute of Technology were the plaintiffs and the appellants below.

CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 29.6 of the Rules of this Court, petitioner Limelight Networks, Inc. states the following:

Limelight Networks, Inc. is a publicly held company that has no parent company. As of December 31, 2013, Goldman, Sachs & Co. owned 31.6% of the shares of Limelight, and that ownership interest has not materially changed.

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INTRODUCTION

Section 271(a) of the Patent Act provides that whoever "without authority" invades a patent owner's exclusive rights "infringes the patent," 35 U.S.C. § 271(a); § 271(b) provides that anyone who "actively induces infringement of a patent shall be liable as an infringer," *id.* § 271(b). It follows directly from this language and this simple structure that § 271(b) proscribes conduct that induces actionable direct infringement of a patent as described in § 271(a). This Court has articulated that very understanding of the statute repeatedly. *See, e.g., Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961).

In the case of patented methods, the Federal Circuit has held that, to establish direct infringement under § 271(a), the patent owner must prove that the accused infringer performed all the steps of the claimed method, either personally or through another acting under his direction or control. App. 5a.[1] All but one of the judges of the *en banc* court below acknowledged that the district court had correctly ruled that respondent Akamai failed to prove that petitioner Limelight directly infringed Akamai's patent, because Limelight did not perform at least one step of each of the asserted method claims. App. 30a, 98a (Linn, J., dissenting). A bare majority of the *en banc* Federal Circuit nevertheless revived Akamai's lawsuit, holding that Limelight might be liable for

---

[1] References to "App. __a" are to the appendix bound together with the petition; references to "A__" are to the appendix filed in the Federal Circuit; references to "JA__" are to the joint appendix filed in this Court.

inducement under § 271(b) of the Patent Act – even in the absence of direct infringement by anyone under § 271(a) – if Akamai could prove that Limelight carried out some of the steps of Akamai's patented method and, with knowledge of the patent, induced its customer to carry out the remaining steps. App. 30a.

This Court should reverse the judgment. *First*, the decision conflicts with the plain text of the Patent Act, which extends liability for inducement only to one who "actively induces *infringement*" – that is, an actionable invasion of the patentee's exclusive rights. If no one directly infringes the patent, then there has been no actionable invasion of the patentee's rights, and no one can have induced infringement of the patent. *Second*, the decision contradicts this Court's prior decisions recognizing that liability for indirect infringement requires proof of direct infringement. *Third*, the legislative history and analogies to principles of criminal law and tort law on which the *en banc* majority relied undermine, rather than support, the decision below. *Fourth*, as this Court has made clear, the *en banc* majority's policy intuition – its concern that the statute creates a loophole in cases of "divided infringement" of method claims – does not justify ignoring the clear terms of the statute. *Fifth*, and in any event, the majority's rule makes bad policy because it fails to produce the proper *ex ante* incentives for innovation and investment.

OPINIONS BELOW

The *en banc* opinion of the court of appeals (App. 1a-99a) is reported at 692 F.3d 1301. The initial panel opinion of the court of appeals (App. 100a-135a) is reported at 629 F.3d 1311. The memorandum and order of the district court granting judgment to petitioner as a matter of law on the issue of infringement (App. 136a-194a) is reported at 614 F. Supp. 2d 90.

JURISDICTION

The court of appeals granted a petition for rehearing *en banc* on April 20, 2011 (App. 195a-197a), and the *en banc* court of appeals entered its judgment on August 31, 2012. The court of appeals denied a motion for reconsideration in relevant part on September 27, 2012. App. 198a-199a. On November 15, 2012, Chief Justice Roberts extended the time for filing a certiorari petition to December 28, 2012. App. 207a. The petition was filed on that date and was granted on January 10, 2014 (JA247). This Court's jurisdiction rests on 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Relevant provisions of the Patent Act are reproduced at App. 200a-206a.

STATEMENT

1. Petitioner Limelight provides a content delivery network ("CDN"), a service that – as its name suggests – delivers content to Internet users on behalf of other companies. To ensure fast and reliable delivery of content, a CDN provider needs to prepare for the possibility that many Internet users will request the same content at the same time. Limelight addresses that possibility by building substantial extra capacity into its CDN. *See generally* JA136-37, 157-58. Limelight assigns capacity on servers at each of its server locations to each of its customers.

JA155-56. If a large number of users request the same content at the same time, that content can be downloaded from multiple locations and multiple servers at each location.

Customers use Limelight's CDN to deliver various content to different types of devices. Much of that content does not appear on a web page – for example, videogames delivered to consoles, streaming music delivered to mobile phones, and software updates delivered to set-top cable boxes. JA177-78. Customers also use Limelight's CDN to deliver the graphics, photos, and other content – known as "embedded objects" – that appears as part of their web pages. JA175-76. The delivery of a customer's content depends on various actions, some of which are performed by Limelight and some of which are performed by the customer.

Limelight relies on the Internet and ordinary Internet routing to direct requests for the content stored on its servers. JA137, 155. Communications are routed over the Internet using addresses known as Uniform Resource Locators or URLs.[2] To use Limelight's CDN service to deliver certain content, a customer directs users' requests for that content to Limelight's network. There is more than one way to do that; as most relevant here, content providers can

---

[2] A URL has three parts: a scheme or protocol (such as "http" – HyperText Transfer Protocol), which indicates the system of digital rules to be used for communication between computers; a domain name or hostname, which generally corresponds to one or more servers or computers connected to the Internet; and a path, which identifies a specific file on the server. For example, in the URL http://www.supremecourt.gov/orders/courtorders/011014zr_bp24.pdf, "http" identifies the protocol; www.supremecourt.gov identifies the domain or host; and the remainder of the URL is the "path" that identifies the specific file. *See* App. 101a.

assign URLs to content that identify Limelight's CDN by including a Limelight hostname in the URL. JA164.

Limelight's CDN does not know whether a given customer URL is embedded by the customer in a web page or is delivered directly to a device another way, nor does this affect how Limelight's CDN delivers the content identified by that URL. JA153. Customers operate their websites and serve their web pages (or have others serve their web pages) as they see fit, without any instruction from Limelight. JA176. Limelight has no ability to direct or control a content provider's decision to direct a request for content to Limelight's CDN. *Id.* A customer might decide at one moment to direct a request to Limelight's CDN, at the next moment to direct the request to a different CDN, and at the next moment to serve the content itself. App. 113a-116a.

2. The patent at issue is U.S. Patent No. 6,108,703, a "Global Hosting System" for web content (the "'703 patent"). JA64-78. A web page is typically made up of a base document and embedded objects. Each embedded object typically has its own URL. The first claim of the '703 patent describes a system that allows a content provider to continue to serve a web page base document while directing requests for embedded objects contained in its web page to a CDN. In 2003, in a suit by Akamai against a different defendant, the Federal Circuit ruled that claims 1 and 3 of the '703 patent were invalid because they were anticipated by U.S. Patent No. 6,185,598 (the "'598 patent"). *See Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1194-95 (Fed. Cir. 2003). The '598 patent, like the '703 patent, is directed to a system for increasing the accessibility of web pages on the Internet, including

by redirecting requests for embedded objects. Akamai, in the 2003 case, did not contest that the '598 patent was prior art; it argued, however, that the difference between the two patents was that the '703 patent disclosed placement of load-balancing software at the DNS server, rather than at the origin server (as in the '598 patent). *Id.* at 1193. The Federal Circuit ruled that claims 1 and 3 of the '703 patent did not require any particular load-balancing mechanism and therefore were anticipated. *Id.* at 1194-95.

The Federal Circuit upheld the validity of two other claims because they included load-balancing software on the DNS server.[3] The court recognized that use of load-balancing software at a DNS server was also old technology: Cisco had disclosed it as early as 1997. But the court – considering the question prior to *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) – held that the defendant had not met its burden of showing that "no reasonable jury could have found" the claims nonobvious. 344 F.3d at 1196.

3. Akamai is the largest provider of CDN services in the country. After acquiring its leading competitor (a company called Speedera) in 2005, Akamai turned its attention towards Limelight, engaging in discussions about potentially acquiring Limelight. JA186, 187-88. In June 2006, Limelight informed Akamai that it had decided to remain independent. Akamai asked whether Limelight would reconsider its decision if Akamai doubled its offer, but Limelight refused. JA188-89. The day after Limelight communicated its determination to remain as an independent competitor, Akamai called to inform Limelight that it had sued Limelight for patent infringement. JA189.

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[3] Limelight does not use load-balancing software on its DNS servers.

Akamai had never previously given any indication that it believed that Limelight infringed any of its patents. *Id.*

At trial, Akamai claimed that Limelight infringed four method claims of the '703 patent, independent claims 19 and 34 and dependent claims 20 and 21. Each of the claims applies to the use of content delivery networks to deliver embedded objects. Claims 19-21 include the step of serving the web page base document from the content provider domain. Each of the claims includes the step of "tagging at least some of the embedded objects" of a web page. The term "tagging" is not used in the specification; the court of appeals noted that "tagging" refers to the "process of modifying an embedded object's URL to link to an object on" the CDN. App. 104a.[4]

For example, independent claim 19 covers a "content delivery service" that performs four steps: (1) replicating embedded objects across a network of content servers on the content delivery network; (2) "tagging the embedded objects of the page so that requests for the page objects resolve to the [CDN provider's] domain instead of the content provider

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[4] It remains disputed whether anyone (Limelight or its customers) "tags" within the meaning of the patent claims. The court made clear that the "only method" for tagging an embedded object described in the patent is to "prepend" the new hostname onto the complete URL of the embedded object. App. 127a. The specification gives the example of an original embedded-object URL www.provider.com/TECH/images/space.story.gif, which could be modified by prepending a new "hostname" to the URL: **ghost1467.ghosting.akamai.com/**www.provider.com/TECH/images/space.story.gif. Limelight's customers do not prepend in this fashion; instead, Limelight's customers' URLs contain a single hostname, and Limelight's servers are not able to use a second hostname if a customer were to include it.

domain"; (3) serving the base page from the content provider domain; and (4) serving at least one embedded object from the CDN provider's domain. JA77.[5]

4. At trial, Akamai pursued allegations of *direct* infringement – that is, infringement under 35 U.S.C. § 271(a) – only.[6] Because Limelight does not modify the URLs of the embedded objects on the content provider's website (or, in the case of claims 19-21, serve the content provider's base page), Akamai's "theory of infringement [was] joint infringement." Akamai Panel Br. 4 (Sept. 15, 2009). Akamai argued that Limelight and its customers jointly infringed the patent because, together, they carried out all the steps of the claimed methods.

a. At the time of trial, the Federal Circuit had recently decided *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007), which also involved a theory of "joint infringement." In *BMC Resources*, the patent claimed a method for processing debit-card transactions. *Id.* at 1375. The defendant carried out certain steps of the method; its customers and financial institutions, in using the defendant's service, carried out the remaining steps. The district court held on summary judgment that the defendant did not directly infringe, and the Federal Circuit affirmed. It noted that "[i]nfringement

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[5] Dependent claims 20 and 21 add additional steps related to server selection. Independent claim 34 omits the serving steps and includes steps related to selection of a content server based on the requesting party's location and the network load.

[6] Akamai waived any claim of indirect infringement by stipulation in the trial court. In exchange, it obtained evidentiary exclusion of rulings from prior litigation involving the '703 patent, including rulings regarding invalidity of certain claims. *See supra* pp. 5-6. The *en banc* majority nevertheless revived Akamai's indirect infringement claim. *See* App. 30a.

requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention." *Id.* at 1380. To attribute the conduct of another party to the defendant for purposes of proving direct infringement of a method claim, the court held, the patent holder would have to prove that the defendant exercised "control or direction" over the conduct of that third party. *Id.* at 1381. The court "acknowledge[d] that the standard requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement," but it held that "this concern does not outweigh concerns over expanding the rules governing direct infringement." *Id.* And it noted that concerns over "avoiding infringement . . . can usually be offset by proper claim drafting." *Id.*

Based on *BMC Resources*, Akamai sought and received an instruction that allowed the jury to find direct infringement if "the content provider, when [modifying the embedded object URLs], acts under the direction [or] control of Limelight such that Limelight can properly be deemed to be the one to do it." A818 (20:14-18). The jury returned a verdict against Limelight and awarded Akamai more than $40 million in damages. JA240-41.

b. The district court initially denied Limelight's motions for judgment as a matter of law. The Federal Circuit then decided *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008). The patent at issue in *Muniauction* involved electronic methods for conducting bond auctions; the only theory of infringement presented by the plaintiff was "so-called joint infringement" based on actions performed by the defendant and by bidders using its system. *Id.* at 1328; *see id.* at 1321. The court noted that, "where

the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party." *Id.* at 1329. "[M]ere 'arms-length cooperation' will not give rise to direct infringement by any party." *Id.* In particular, the fact that the defendant "controls access to its system and instructs bidders on its use" is not sufficient to incur liability for direct infringement. *Id.* at 1330.

Relying on *Muniauction*, Limelight moved for reconsideration of the denial of its motion for judgment of non-infringement as a matter of law. Finding Akamai's theory of liability indistinguishable from the one the Federal Circuit rejected in *Muniauction*, the district court granted Limelight's motion. App. 138a, 193a-194a.

5. A unanimous Federal Circuit panel affirmed. The panel noted that "what is essential" in evaluating a claim of liability for "joint infringement" is "whether the relationship between the parties is such that acts of one may be attributed to the other." App. 111a. "Implicit in this court's holdings in *BMC Resources* and *Muniauction* is that the performance of a method step may be attributed to an accused infringer when the relationship between the accused infringer and another party performing a method step is that of principal and agent." *Id.* "Similarly, . . . joint infringement occurs when a party is contractually obligated to the accused infringer to perform a method step." App. 111a-112a; *see also* App. 115a. The panel concluded that Akamai failed to make the required showing. App. 116a-117a.

6. The Federal Circuit granted Akamai's petition for rehearing *en banc*, setting forth the following question to be addressed:

> If separate entities each perform separate steps of a method claim, under what circumstances would that claim be *directly infringed* and to what extent would each of the parties be liable?

App. 196a (per curiam) (emphasis added).

7. Subsequently, a different panel of the Federal Circuit, with Judge Newman dissenting, affirmed the district court's summary judgment of non-infringement in *McKesson Technologies, Inc. v. Epic Systems Corp.*, 463 F. App'x 906 (Fed. Cir. 2011) (per curiam). The court granted McKesson's petition for rehearing *en banc*, asking the parties in that case to file briefs addressing two questions:

> 1. If separate entities each perform separate steps of a method claim, under what circumstances, if any, would either entity or any third party be liable for inducing infringement or for contributory infringement? *See Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565 (Fed.Cir.1983).
>
> 2. Does the nature of the relationship between the relevant actors – e.g., service provider/user; doctor/patient – affect the question of direct or indirect infringement liability?

Id. at 907. The court later ordered argument in Akamai's appeal and in McKesson's appeal to be heard by the *en banc* court on the same date.

8. A fractured *en banc* court issued a single set of opinions covering both cases. Six of 11 active judges joined the per curiam majority.

a. The court noted that, "for a party to be liable for direct patent infringement under 35 U.S.C. § 271(a), that party must commit all the acts necessary to infringe the patent, either personally or vicariously. In the context of a method claim, that means the accused infringer must perform all the steps

of the claimed method, either personally or through another acting under his direction or control. Direct infringement has not been extended to cases in which multiple independent parties perform the steps of the method claim." App. 5a (citations omitted). Relying on *BMC Resources*, the court noted that, although "direct infringement applies when the acts of infringement are committed by an agent of the accused infringer or a party acting pursuant to the accused infringer's direction or control," "[a]bsent an agency relationship between the actors or some equivalent . . . a party that does not commit all the acts necessary to constitute infringement has not been held liable for direct infringement even if the parties have arranged to 'divide' their acts of infringing conduct for the specific purpose of avoiding infringement liability." App. 6a.

The court declined "to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a)." *Id.*

b. The court then turned to the question of inducement to infringe under 35 U.S.C. § 271(b). The court stated that, because "section 271(b) extends liability to a party who advises, encourages, or otherwise induces others to engage in infringing conduct, it is well suited to address the problem presented by the cases before us, i.e., whether liability should extend to a party who induces the commission of infringing conduct when no single 'induced' entity commits all of the infringing acts or steps but where the infringing conduct is split among more than one other entity." App. 7a.

The court acknowledged that "inducement gives rise to liability only if the inducement leads to actual

infringement. That principle, that there can be no indirect infringement without direct infringement, is well settled." App. 8a (citing *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961); *Henry v. A.B. Dick Co.*, 224 U.S. 1, 12 (1912)). The court stated, however, that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer. If a party has knowingly induced others to commit the acts necessary to infringe the plaintiff's patent and those others commit those acts, there is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement." App. 9a.

The majority rejected the dissent's objection that "the approach we adopt today has the effect of 'defin[ing] direct infringement differently for the purposes of establishing liability under § 271(a) and (b).'" App. 20a (alteration in original). The court held that "[s]ection 271(a) does not define the term 'infringement.' Instead, it simply sets forth a type of conduct that qualifies as infringing." *Id.* "Section 271(b) sets forth another type of conduct that qualifies as infringing .... But nothing in the text of either subsection suggests that the act of 'infringement' required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a)." *Id.*

c. The court held that, "although the jury found that the content providers acted under Limelight's direction and control, the trial court correctly held

that Limelight did not direct and control the actions of the content providers as those terms have been used in this court's direct infringement cases." App. 30a. The court nevertheless held that, "under the principles of inducement laid out above, Limelight would be liable for inducing infringement if the patentee could show that (1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content providers in fact performed that final step." *Id.* The court acknowledged that "the patentee in *Akamai*" – unlike the patentee in *McKesson*, the companion case – "did not press its claim of induced infringement at trial." *Id.* The court nevertheless indicated that Akamai could seek to gain "the benefit of this court's ruling" on remand. *Id.*

9. Judge Linn, joined by Judges Dyk, Prost, and O'Malley, dissented. The dissent accused the court of "assum[ing] the mantle of policy maker":

> [The court] has decided that the plain text of § 271(a) and (b) fails to accord patentees certain extended rights that a majority of this court's judges would prefer that the statute covered. To correct this situation, the majority effectively rewrites these sections, telling us that the term "infringement" was not, as was previously thought, defined by Congress in § 271(a), but instead can mean different things in different contexts.

App. 69a (Linn, J., dissenting). The dissent noted that the "majority's approach is contrary to both the Patent Act and to the Supreme Court's longstanding precedent." *Id.* "Under the majority's approach,

if two or more parties independently practice the elements of a claim, an act of 'infringement' to support a charge of induced infringement under § 271(b) has occurred. The problem with that approach is that there is no statutory basis for concluding that such independent acts constitute infringement and no basis for asserting a cause of action for infringement against any of those independent parties." App. 79a (citation omitted). "There is no tort for inducing an act that is something less than an infringement, and thus *not* itself wrongful, tortious, or a breach of duty." App. 90a.

10. Judge Newman also dissented. She noted that the majority had made "dramatic changes in the law of infringement" and that the court's "new 'inducement-only rule' . . . is not in accordance with statute, precedent, and sound policy . . . and contains vast potential for abuse." App. 31a (Newman, J., dissenting). "[A]n inducement-only rule has never been held, in any case. It has no foundation in statute, or in two centuries of precedent." App. 33a. "For all forms of indirect infringement liability, it is necessary to establish that the claimed invention is directly infringed." App. 49a. "When the performance of the claim steps is not unlawful, the inducer cannot be liable for inducing infringement." App. 50a. Judge Newman would have held that, as long as all steps of a method claim are performed "whether by a single entity or in interaction or collaboration," all parties are liable for direct infringement; "[r]emedy is then allocated as appropriate to the particular case." App. 68a.

11. Limelight filed a motion for reconsideration and clarification that was denied in relevant part. App. 198a-199a.

SUMMARY OF ARGUMENT

I. This Court should reverse the decision below and hold that imposition of indirect liability under 35 U.S.C. § 271(b) requires proof that the defendant has induced actionable direct infringement.

A. Section 271(b) provides that "[w]hoever actively induces *infringement of a patent* shall be liable as an infringer." 35 U.S.C. § 271(b) (emphasis added). That language makes clear that, to establish liability for inducing patent infringement under § 271(b), a plaintiff must prove that someone has committed actionable direct infringement.

Here, the only relevant basis for imposing liability for direct infringement is § 271(a), which provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States . . . , infringes the patent." *Id.* § 271(a). For purposes of Akamai's claims, liability for inducement under § 271(b) necessarily points back to the requirements for infringement under § 271(a): inducement of conduct that does not "infringe[] . . . a patent" cannot be a basis for liability under § 271(b). The Federal Circuit determined that neither Limelight nor its customers directly infringe Akamai's patent within the meaning of § 271(a) because no one performed all the steps of the patented method. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997); *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005). That determination should have precluded imposition of indirect liability for infringement as well. The Federal Circuit's contrary holding – that the conduct of Limelight and its customers could collectively constitute "infringement" for purposes of § 271(b), even though it does not constitute direct infringement

under § 271(a) (or any other provision imposing direct liability for infringement) – cannot be squared with the text of the statute.

B. The Federal Circuit's holding is also at odds with this Court's precedents. This Court has repeatedly reaffirmed that "if there is no *direct* infringement of a patent there can be no [indirect] infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) ("*Aro I*"); *see Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 483 (1964); *see also Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 443 (2007); *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 216 (1980); *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 677 (1944) (Frankfurter, J., dissenting). Contrary to the Federal Circuit majority's understanding, this Court has made clear that "direct infringement" in a case like this one means infringement under § 271(a). *See Global-Tech*, 131 S. Ct. at 2065; *Microsoft v. AT&T*, 550 U.S. at 443; *Deepsouth*, 406 U.S. at 526; *Aro I*, 365 U.S. at 341. Congress has amended the Patent Act repeatedly with the benefit of this Court's interpretation of § 271 and has left the relevant language and structure unchanged. *See Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2252 (2011).

II.A. The Federal Circuit's reliance on principles drawn from criminal law and tort law provides no justification for the expansion of § 271(b). Congress, in 1952, codified the statutory grounds for liability for inducing infringement. Congress has expressly addressed the scope of liability for indirect infringement, replacing varying standards articulated in

prior appellate decisions. Analogies to differently worded statutes or to the common law do not justify expanding liability beyond this statute's terms. *See Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 173 (1994).

In any event, the lower court majority's assertion that the new basis for liability it created under § 271(b) is comparable to liability imposed under 18 U.S.C. § 2 ignores the difference between the two subsections of the criminal statute. The language of § 271(b) resembles the language of 18 U.S.C. § 2(a), which applies to someone who "induces" the "commi[ssion] [of] an offense," and proof of a violation under § 2(a) requires proof that someone has committed the underlying offense. By analogy, proof of inducement under § 271(b) likewise requires proof that someone has directly infringed. Section 2(b) – which imposes liability for inducing conduct that "would be" an offense if committed by the defendant – has no counterpart in § 271.

Tort law precedents do not support the imposition of liability for inducing conduct if that conduct does not itself result in the invasion of any legally protected interest. The Federal Circuit acknowledged that, viewed in the light most favorable to Akamai, the conduct by Limelight and its customers does not constitute direct infringement of Akamai's patent under § 271(a). On that understanding, even on the assumption that Limelight induced its customers to serve their own website base pages and to "tag" embedded objects so that requests for content would be redirected to Limelight's network, the customers' conduct did not violate Akamai's rights, either alone or in combination with Limelight's conduct.

B. The legislative history of the 1952 Act supports the conclusion that Congress intended to specify and to narrow the basis for liability for indirect patent infringement. Prior to 1952, the scope of infringement liability was governed by a relatively amorphous body of federal common law. Congress's enactment of § 271(b) and (c) provided clarity by replacing varying judicial formulations; the courts are bound by the language that Congress adopted.

C. Because the language that Congress adopted is clear, the court of appeals erred by relying on two pre-1952 lower court decisions. It also erred by overstating the degree to which that case law supports Akamai's position. There is substantial authority that favors Limelight instead, especially the views expressed by Justices Roberts and Frankfurter in *Mercoid* that this Court later endorsed in *Aro I*.

III. A rule that permits imposition of liability for infringement of method patents when no party performs every step of the method creates uncertainty about the scope of patent coverage, which deters future innovation and burdens productive activity. Furthermore, the Federal Circuit's rule encourages sloppy claim drafting and even gamesmanship. Patentable methods can be drafted from the point of view of a single actor; such has been the recommended practice for years. No legitimate *ex ante* incentives for innovation are lost if patents are enforced according to their terms.

Furthermore, the Federal Circuit's "significant expansion" of § 271(b) to encompass claims of "divided infringement" threatens an unjustified "increase in burdensome litigation," U.S. Cert. Br. 7, a concern that is not alleviated by the requirement that a plaintiff prove that the defendant knew of the patent

and intended to induce a third party's conduct. Pleading intent is easy, and a prima facie case of intent can be established by simply providing notice of alleged infringement prior to suit.

Concerns about retrospective fairness, to the extent relevant, cannot justify the Federal Circuit's change in law either. There is no unfairness in giving a patentee exclusive rights to what is claimed and no more. *See Medtronic, Inc. v. Mirowski Family Ventures, LLC*, 134 S. Ct. 843, 851-52 (2014) ("A patentee should not be allowed to exact royalties for the use of an idea that is beyond the scope of the patent monopoly granted.") (internal quotations and alterations omitted). In this case, each of the steps of the method must be considered material, and no party performed all of them.

ARGUMENT

I. LIABILITY FOR INDUCEMENT UNDER § 271(b) REQUIRES PROOF OF ACTIONABLE DIRECT INFRINGEMENT

A. The Statute's Text and Structure Resolve the Question Presented

The text and structure of the Patent Act make clear that, to establish that a defendant has "actively induce[d] infringement of a patent," 35 U.S.C. § 271(b), a plaintiff must prove that someone has directly infringed the patent.

1. Section 271 of the Patent Act governs liability for patent infringement. Section 271(a) "defines 'infringement,'" setting forth the grounds for claims of "direct infringement." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 342 (1961) ("*Aro I*"). Sections 271(b) and (c) articulate two grounds for "indirect liability." *Global-Tech Appliances, Inc.*

v. SEB S.A., 131 S. Ct. 2060, 2067 (2011).[7] Section 271(c) defines "contributory" infringement, providing that one who "sells . . . a component of a patented" invention "knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer." 35 U.S.C. § 271(c).

Section 271(b) provides that one who "actively induces infringement of a patent" is "liable as an infringer." *Id.* § 271(b). Section 271(b) (like § 271(c)) by its terms does not alter the patentee's exclusive rights; rather, it extends liability for infringement to a defendant who does not directly infringe but who induces another's infringing conduct. *See Global-Tech*, 131 S. Ct. at 2068 ("[I]nduced infringement under § 271(b) requires knowledge that *the induced acts constitute patent infringement*.") (emphasis added). If the conduct that the defendant "actively induces" is not itself an invasion of the patentee's rights, it is not an "infringement," and the defendant is not "liable as an infringer." 35 U.S.C. § 271(b).[8]

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[7] Prior to 1952, the term contributory infringement referred generally to "aiding and abetting of direct infringement by another party." *Global-Tech*, 131 S. Ct. at 2067.

[8] This interpretation is likewise required to comport with the plain meaning: "infringement" means an "[a]ct of infringing"; "[a]n encroachment or trespass on a right or privilege," for example, "[t]he unlawful manufacture use, or sale of a patented . . . article." *Webster's New International Dictionary* 1277 (2d ed. 1952) ("*Webster's Second*"); *see also Webster's Third New International Dictionary* 1161 (2002) (definitions including "the act of infringing" and "the unlawful manufacture, use, or sale of a patented . . . article, such as constitutes a tort in law"); *Random House Unabridged Dictionary* 980 (2d ed. 1993) (defi-

2. Section 271(a) provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention . . . infringes the patent." 35 U.S.C. § 271(a). The unauthorized acts prohibited in § 271(a) are the mirror image of exclusive rights provided to patentees under 35 U.S.C. § 154(a). Section 154(a) provides that "the patentee [shall be granted] . . . the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States." *Id.* § 154(a)(1). Section 271(a) confirms that one who invades such an exclusive right is liable for direct infringement. Section 271 also imposes liability for other conduct – *i.e.*, defines other grounds for claims of infringement – but no other potential basis for direct infringement liability is at issue in this case.

In the case of process or method patents, infringement under § 271(a) requires that the accused infringer perform each step of the method. "Because a process is nothing more than the sequence of actions of which it is comprised, the use of a process necessarily involves doing or performing each of the steps recited." *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005); *see also Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) ("[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention"). The performance of less than all the steps of a method thus does not constitute

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nitions including "a breach or infraction, as of a law, right, or obligation," and "an act of infringing"). *Webster's Second* further notes that "a patent for a combination is not infringed by the use of any number of the parts less than the whole." *Webster's Second* 1277.

direct infringement under § 271(a) (or any other provisions of the Patent Act).

Accordingly, inducing someone to perform less than all the steps of a method claim does not induce infringement and cannot be the basis for liability under § 271(b). In this case, Limelight allegedly induced its customers to serve their own web pages and to assign URLs containing a Limelight hostname to certain content. Because the allegedly induced conduct does not invade any of Akamai's exclusive rights, Limelight cannot be held liable for inducing infringement under § 271(b).

Akamai's allegation that Limelight performs some other (but not all the) steps of its patented method does not alter this conclusion. For purposes of liability under § 271(b), any steps that Limelight performs are beside the point: the statute extends liability to one who actively induces another to commit infringement, and the recognition that Limelight's customers do not infringe means that Limelight is not liable under § 271(b). *See Global-Tech*, 131 S. Ct. at 2067.[9]

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[9] The Federal Circuit accepted that, because there was no basis for attributing the conduct of Limelight's customers to Limelight (or vice versa), *no* party committed an actionable direct infringement. *See* App. 6a (declining to reconsider the rule that, when "several parties have collectively committed the acts necessary to constitute direct infringement, but no single party has committed all of the required acts," there is no liability for direct infringement of method claims); U.S. Cert. Br. 8-9. The Federal Circuit's holding with respect to Akamai's claims under § 271(a) is the subject of Akamai's conditional cross-petition, No. 12-960. For the reasons stated in our opposition brief and in the brief of the United States, the Court should deny that cross-petition.

3. The Federal Circuit majority, while acknowledging that "liability for induced infringement requires proof of direct infringement," asserted that "proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring proof that a single party would be *liable* as a direct infringer." App. 9a. That is incorrect: "infringement" is simply an "[a]ct of infringing," *Webster's Second* 1277; if no one has encroached on the patentee's exclusive rights, *see id.* – that is, if no one has directly infringed – there has been no infringement. There is no basis for expanding the definition of "infringement" in § 271(b) to include conduct that is not, in fact, infringing, even if the conduct could have been infringing if performed by a single entity.

Furthermore, the Federal Circuit's reasoning contradicts the statutory directive that "[a] patentee shall have remedy by civil action for infringement of his patent." 35 U.S.C. § 281. If the Federal Circuit were correct that the activities of Limelight and its customers constitute "infringement," it would follow from the terms of § 281 that Akamai would have a "remedy by civil action" for those activities, *regardless* of any claim of inducement. But the Federal Circuit recognized that Akamai does not. As a matter of ordinary language and the express terms of the statute, an act for which no one is liable is not an infringing act. The existence of direct infringement and someone's liability for that direct infringement "are not even different sides of the same coin – they are the same side of the same coin." *College Sav.*

Bank v. Florida Prepaid Postsecondary Educ. Expense Bd., 527 U.S. 666, 683 (1999).[10]

4. Prior modifications of § 271 – which create and calibrate liability for conduct that does not fit into the general scheme of § 271(a)-(c) – demonstrate that the extension of liability for inducement to cases in which no party directly infringes is a matter for Congress, not for the courts. Various provisions of § 271(e), (f), and (g) either extend liability for conduct that would not otherwise constitute infringement of the exclusive rights enumerated in § 154(a) or restrict liability for conduct that does infringe those enumerated rights to exclude.[11] There is no such provision imposing liability for "divided infringe-

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[10] The Federal Circuit majority dismissed § 281 as a mere "preamble" that "cannot . . . be read to mean that any act of infringement will necessarily be remediable through a civil action." App. 21a. To the contrary, § 281 cannot be read to mean anything else. Moreover, the Federal Circuit pointed to no other example of infringement that is not remediable through a civil action against a private defendant – instead, it observed that certain government defendants may be immune from suit. *See id.* The possibility that background legal rules may immunize certain *defendants* from suit does not support the assertion that the Patent Act creates a category of non-actionable direct infringement.

[11] For example, § 271(e)(2) makes it "an act of infringement," in specified circumstances, to submit certain applications for Food and Drug Administration approval of a "drug claimed in a patent or the use of which is claimed in a patent." 35 U.S.C. § 271(e)(2). Section 154(a) does not otherwise grant patentees a right to exclude the submissions of such an application. To cite another example, § 271(g) imposes liability "as an infringer" on one who, again in specified circumstances, imports, sells, or uses "a product which is made by a process patented in the United States." *Id.* § 271(g). The available remedies under § 271(g) are narrower than if the conduct were simply defined as infringement under § 271(a).

ment" of method claims, and the courts are not free to create one. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012) (recognizing "the role of Congress in crafting more finely tailored rules where necessary").

The language and circumstances surrounding the adoption of § 271(f) make the Federal Circuit's extra-statutory improvisation especially jarring. That provision was adopted to respond to this Court's holding in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972), which was taken to reflect a "gap in our patent law." *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 457 (2007); *see infra* p. 29 (discussing *Deepsouth*). Congress established liability for "actively induc[ing] the combination . . . outside of the United States" of "all or a substantial portion of the components of a patented invention . . . in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). This provision imposes liability for inducement without requiring proof of direct infringement under § 271(a), but only under circumstances defined by Congress – that is, where the induced conduct *would have* directly infringed if United States law had applied. *See also id.* § 271(f)(2) (creating comparable analog to contributory infringement). The post-1952 modifications to § 271 demonstrate that "Congress knew how to impose . . . liability when it chose to do so." *Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 176 (1994).

B. The Decision Below Is Irreconcilable with This Court's Decisions Recognizing the "Fundamental Precept" That There Can Be No Indirect Infringement Without Direct Infringement Under § 271(a)

The Federal Circuit's holding that Limelight may be liable, under § 271(b), for inducing infringement of Akamai's patent even though no party directly infringed the patent under § 271(a) also conflicts with this Court's holding, repeatedly reaffirmed, that "if there is no *direct* infringement of a patent there can be no [indirect] infringement." *Aro I*, 365 U.S. at 341 (referring to that principle as a "fundamental precept" of patent law).

1. In *Aro I*, the plaintiff held a patent on convertible car tops; the defendant sold replacement fabrics knowing that "the purchasers intend[ed] to use the fabric for replacement purposes on automobile convertible tops which are covered by the claims of [the] combination patent." 365 U.S. at 341. This Court held that "manufacture and sale with that knowledge might well constitute contributory infringement under § 271(c), *if, but only if*, such a replacement by the purchaser himself would in itself constitute a *direct* infringement *under § 271(a)*." *Id.* (first and third emphases added). The Court said further that "'if the purchaser and user could not be *amerced as an infringer* certainly one who sold to him . . . cannot be amerced for contributing to a non-existent infringement.'" *Id.* (quoting *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 674 (1944) (Roberts, J., dissenting)) (emphasis added; alteration in original). *Aro I* thus made clear that a necessary predicate for liability for indirect infringement is the existence of direct infringement *under § 271(a)*: unless someone

is liable for direct infringement (may be "amerced as an infringer"), no one can be liable for indirect infringement.[12]

This Court applied the same rule in *Deepsouth*. In that case, the respondent held a patent on a shrimp deveiner; sale and use of the petitioner's deveiner infringed the respondent's combination patent. 406 U.S. at 519. The petitioner sought a modification of the injunction against it to permit it to continue to ship "deveining equipment to foreign customers in three separate boxes, each containing only parts of the 1¾-ton machines, yet the whole assemblable in less than one hour." *Id.* at 524. The Fifth Circuit rejected the request; this Court reversed. It noted that if the petitioner's conduct "were intended to lead to use of patented deveiners inside the United States its production and sales activity would be subject to injunction as an induced or contributory infringement." *Id.* at 526. But, the Court held, the petitioner could not be liable for indirect infringement in the absence of direct infringement. Quoting *Aro I*, the Court noted that the Patent Act "'defines contributory infringement in terms of direct infringement.'" *Id.* (quoting 365 U.S. at 341). Under § 271(a), "it is not an infringement to make or use a patented product outside of the United States." *Id.* at 527. Because the petitioner's deveiner did not infringe the respondent's patent until fully assembled, and because that assembly was completed outside of the United States, the petitioner's conduct did not subject it to liability under the Patent Act.

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[12] *Aro I* dealt specifically with § 271(c), but this Court has never suggested that the result would be different for § 271(b). Neither did the court of appeals, and neither has Akamai.

In both *Aro I* and *Deepsouth*, this Court concluded that, because the petitioner's conduct did not result in direct infringement of the respondent's patent by anyone, the petitioner could not be held liable for indirect infringement. In neither case did the Court even entertain the argument that the meaning of "infringement" for purposes of assessing potential liability for *indirect* infringement might be broader than the meaning of "infringement" for purposes of assessing liability for *direct* infringement. To the contrary, the fact that no one had directly infringed under § 271(a) instead provided sufficient reason to reject liability for both direct and indirect infringement. Accordingly, those cases control the question presented here. *See Seminole Tribe of Florida v. Florida*, 517 U.S. 44, 67 (1996) ("When an opinion issues for the Court, it is not only the result but also those portions of the opinion necessary to that result by which we are bound.").

In *Deepsouth*, furthermore, this Court decisively rejected the Fifth Circuit's view that requiring actionable direct infringement to impose liability for indirect infringement was "artificial" or "technical" or "allow[ed] an intrusion on a patentee's rights." 406 U.S. at 525 (internal quotations omitted). To the contrary, this Court held that it "would require a clear and certain signal from Congress before approving the position of a litigant who . . . argues that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought." *Id.* at 531. The Court left the matter to Congress, which, as noted above, eventually amended § 271 to address the issue by adding language that does not affect the result here.

This Court reaffirmed the same basic principle – that liability for indirect infringement requires proof

that some party has directly infringed – just three Terms ago in *Global-Tech*. It noted that § 271(b) has two "possible" readings, which differ with respect to the inducer's state of mind; both such readings, however, *require* that the inducer "lead another to engage in conduct that . . . amount[s] to infringement, *i.e.*, the making, using, offering to sell, selling, or importing of a patented invention. See § 271(a)." 131 S. Ct. at 2065. The Court's analysis started from the premise that a showing that some party has directly infringed within the meaning of § 271(a) is the necessary first step in showing that some other party induced infringement within the meaning of § 271(b).

2. As the five dissenting judges below recognized, "[t]he majority's approach" – which permits imposition of liability under § 271(b) even though no party has directly infringed under § 271(a) – "is contrary . . . to the Supreme Court's longstanding precedent." App. 69a (Linn, J., dissenting); *see also* App. 49a (Newman, J., dissenting) ("For all forms of indirect infringement liability, it is necessary to establish that the claimed invention is directly infringed."). The Federal Circuit expressly held that Akamai failed to prove that Limelight or its customers directly infringed. *See* App. 30a. That determination should have ended the case: because Limelight did not "lead another to engage in conduct that . . . amount[s] to infringement" under § 271(a), *Global-Tech*, 131 S. Ct. at 2065, the prerequisite for liability under § 271(b) is absent.

The Federal Circuit majority nevertheless attempted to distinguish this Court's precedents by maintaining that there is a distinction between infringement as defined in § 271(a) and infringement as used in § 271(b): while the *en banc* majority acknowledged

that direct infringement under § 271(a) requires that a party "commit all the acts necessary to infringe the patent," App. 5a, "[n]othing in the text indicates that the term 'infringement' in section 271(b)" is so limited, App. 10a. "Rather, 'infringement' in this context appears to refer most naturally to the acts necessary to infringe a patent, not to whether those acts are performed by one entity or several." *Id.*; *see also* App. 24a (suggesting that performance of all method steps by independent entities constitutes "actual infringing conduct" even though it is not infringement under § 271(a)).

That analysis cannot be squared with *Aro I*, *Deepsouth*, or *Global-Tech*. As we have shown, each of those cases made a showing of direct infringement under § 271(a) a prerequisite for liability for indirect infringement. The Federal Circuit, however, did not discuss *Global-Tech* or *Deepsouth* at all. And it dismissed this Court's statement in *Aro I* as dicta, stating that "it was because the purchaser of the fabric was engaged in repair rather than reconstruction – and thus was not guilty of infringement at all – that the Court found there could be no contributory infringement." App. 24a. But that is no distinction from this case. As in *Aro I*, Limelight's customers were not "guilty of infringement at all" because they did not perform all the steps of the claimed method. The Federal Circuit majority's creation of an extra-statutory form of "infringement" unmoored to § 271(a) thus cannot be reconciled with this Court's precedents.

3. This Court should adhere to the legal principles clearly articulated in its prior decisions. The understanding that, under the Patent Act, "if there is no *direct* infringement of a patent there can be no

[indirect] infringement," *Aro I*, 365 U.S. at 341, has been consistently articulated in this Court's cases for half a century. Those investing in technology and innovation should not see their reliance on that basic principle undermined.

Furthermore, Congress, despite making many other changes to the patent laws over the past decades, including changes to other parts of § 271, has never altered the indirect infringement provisions, § 271(b) and (c). Congress can therefore be understood to have accepted and endorsed this Court's consistent interpretation of those provisions. *See Faragher v. City of Boca Raton*, 524 U.S. 775, 792, 804 n.4 (1998) ("the force of precedent . . . is enhanced" where Congress amends a statute that this Court has previously interpreted without "providing any modification of [the Court's] holding"); *Square D Co. v. Niagara Frontier Tariff Bureau, Inc.*, 476 U.S. 409, 419-20 (1986) (when "Congress specifically addresse[s]" an "area" of the law, but "le[aves] . . . undisturbed" a rule established by this Court, it lends "powerful support" to that rule's "continued viability"). Accordingly, it is for Congress to effect any change in the scope of liability for inducement under § 271(b). *See Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2252 (2011).

II. THE FEDERAL CIRCUIT PROVIDED NO JUSTIFICATION FOR DISREGARDING THE STATUTE'S TEXT, STRUCTURE, AND PRECEDENT

The Federal Circuit shunned the straightforward interpretation of the statute and this Court's precedents, reaching a contrary result based on purported analogies to criminal and tort law; snippets from the legislative history; and isolated pre-1952 court of

appeals cases. Because the statute is clear, this Court need not consider these materials; in any event, they fail to provide a basis for the Federal Circuit's misreading of § 271(b).

A. General Principles of Criminal and Tort Liability Provide No Support for the Decision Below

In determining the "scope of conduct prohibited by" § 271(b), "the statute itself resolves the case." *Central Bank of Denver*, 511 U.S. at 177, 178. Congress has defined the exclusive rights granted to patentees, modifying the scope of those exclusive rights as needed by amending the statute, and has calibrated liability rules in cases where greater or lesser protection was warranted. The specificity of the statutory language precludes judicial adoption of inconsistent common-law extensions. But even if the statute were less specific, criminal and tort law precedents further undermine the Federal Circuit's decision.

1. The conclusion that no one can be liable under § 271(b) in the absence of direct infringement under § 271(a) is reinforced by a comparison to 18 U.S.C. § 2. The provision of that criminal statute that most closely approximates the language of § 271(b) is 18 U.S.C. § 2(a), which provides, in relevant part, that "[w]hoever . . . induces . . . [the] commission" of an offense against the United States "is punishable as a principal." *Compare* 35 U.S.C. § 271(b) ("Whoever actively induces infringement of a patent shall be liable as an infringer.").[13] As numerous courts of

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[13] Section 2 provides:

(a) Whoever commits an offense against the United States or aids, abets, counsels, commands, induces or procures its commission, is punishable as a principal.

appeals have held, there can be liability under § 2(a) only when some underlying "offense" has been committed.[14]

Although the Federal Circuit sought to rely on *Standefer v. United States*, 447 U.S. 10 (1980), for its view that § 2 does not require proof of an underlying offense, the court misread that decision. In *Standefer*, this Court expressly pointed out that the government had proved the commission of an underlying offense, noting that it had "prov[ed] beyond reasonable doubt that [the principal] violated [the statute of conviction] *and* that [the defendant] aided and abetted him in that venture." *Id.* at 26 (emphasis added). It even added that the defendant was "entitled to no less." *Id.* By analogy, to establish liability under § 271(b), the patent owner must prove that the induced party has infringed the patent.

(b) Whoever willfully causes an act to be done which if directly performed by him or another would be an offense against the United States, is punishable as a principal.

[14] *See, e.g.*, *United States v. Andrade*, 135 F.3d 104, 110 (1st Cir. 1998) (Boudin, J.) (explaining that for liability under § 2(b), "[u]nlike . . . § 2(a), there is no requirement that the intermediary be shown to be criminally liable"); *United States v. Motley*, 940 F.2d 1079, 1082 (7th Cir. 1991) (describing § 2(a) as "traditional aiding and abetting, which requires proof that the principal committed some underlying offense," and § 2(b) as a "variation" under which no such proof is required); *United States v. Ruffin*, 613 F.2d 408, 412 (2d Cir. 1979) ("It is hornbook law that a defendant charged [under § 2(a)] with aiding and abetting the commission of a crime by another cannot be convicted in the absence of proof that the crime was actually committed. . . . It is equally clear that under [§ 2(b)] one who *causes* another to commit a criminal act may be found guilty as a principal even though the agent who committed the act is innocent or acquitted.") (collecting authorities).

The majority in the court of appeals argued that a comparison to 18 U.S.C. § 2 supported its position, App. 15a-17a, but it could reach that conclusion only by drawing an inapt analogy to § 2(b), which imposes liability on one who causes "an act to be done which if directly performed by him or another would be an offense" under further circumstances. 18 U.S.C. § 2(b).[15] Section 271(b) does not resemble § 2(b); it has nothing to say about acts that "would be" infringement if committed by the defendant, or by anyone else.[16]

The cases cited by the majority below – other than *Standefer* – all relied on § 2(b) rather than § 2(a).[17] *Gleason* even drew the distinction between § 2(a) and

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[15] Moreover, as the dissent explained, to establish a violation under § 2(b), the prosecution must prove that a criminal act was committed. That provision therefore does not support the Federal Circuit majority in any event: "[w]hen a person induces one or more entities to perform acts that do not constitute the statutorily defined act of *patent infringement* . . . that person does not induce any prohibited conduct under the statute." App. 87a (Linn, J., dissenting).

[16] The Members of Congress who enacted § 271(b) would, moreover, have been aware of the significance of that omission. Both House and Senate Reports described § 271(b) as an "aiding and abetting" provision, H.R. Rep. No. 82-1923, at 28 (1952); S. Rep. No. 82-1979, at 28 (1952), suggesting that they had § 2 in mind when drafting it. Further, Congress enacted § 2 largely in its current form as part of the codification of the criminal code in 1948, *see* Act of June 25, 1948, ch. 645, § 2, 62 Stat. 683, 684, and made a substantive amendment to § 2(b) in 1951, *see* Act of Oct. 31, 1951, ch. 655, § 17b, 65 Stat. 710, 717, at the very time the Patent Act was under consideration.

[17] *See United States v. Tobon-Builes*, 706 F.2d 1092, 1099 (11th Cir. 1983); *United States v. Gleason*, 616 F.2d 2, 20 (2d Cir. 1979); *United States v. Rapoport*, 545 F.2d 802, 806 (2d Cir. 1976).

§ 2(b) discussed in the text. 616 F.2d at 20. Judge Linn's dissent below made this point, *see* App. 84a-87a, but the majority offered no response.

2. Tort law analogies cannot override the terms of the statute and, in any event, would not support the result below. The majority noted that the Restatement recognizes the principle that "a person [may be] liable for tortious conduct if he 'orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own.'" App. 16a (quoting Restatement (Second) of Torts § 877(a) (1979)); *see also* App. 17a (citing Restatement of Torts § 876 (1938)). But § 876 and § 877 of the Restatement encapsulate holdings from cases involving liability for "the tortious conduct of another" that causes "harm." Under these general principles, the showing of "harm" necessary to impose any indirect liability depends on showing the invasion of the legally protected rights of the injured party. App. 87a-90a (Linn, J., dissenting).

Yet that is what Akamai failed to show. Even on the assumption that Limelight induced its customers to continue serving their base web pages and to "tag" website content while itself carrying out the remaining steps of the patented methods, neither Limelight nor its customers carried out all the steps of the patent either directly or vicariously. And, as the majority acknowledged, "[a]bsent an agency relationship between the actors or some equivalent, . . . a party that does not commit all the acts necessary to constitute infringement [is not] liable for direct infringement." App. 6a; *see also* App. 30a. Because Akamai failed to show that any party directly infringed its patent, it failed to show any legally cognizable harm – *i.e.*, any invasion of a legally pro-

tected right to exclude – that would provide the basis for imposition of liability.

B. The Legislative History of the 1952 Act Provides No Support for the Result Below

Because the statutory text here is "not ambiguous," there is no need for this Court to "look to . . . legislative history," *Exxon Mobil Corp. v. Allapattah Servs., Inc.*, 545 U.S. 546, 567 (2005), and the court of appeals erred in doing so. But, in any event, the legislative history does not undermine what the statute says. Congress's goal in replacing the pre-1952 common law of contributory (*i.e.*, indirect) infringement with § 271(b) and (c) was to "eliminate . . . doubt and confusion" and to "define and limit" the bases for liability. H.R. Rep. No. 82-1923, at 9, 28. The House Report accompanying the legislation marked it as a "major change[]" and characterized the provisions as "much more restricted than many proponents of contributory infringement believe[d] should be the case." *Id.* at 5, 9.

Particularly in light of that history, the Federal Circuit erred in relying heavily on a statement by Giles (later, Judge) Rich from a hearing in 1948, in which he suggested that parties might be guilty of contributory infringement even if there is no direct infringer. *See* App. 13a. Such statements are entitled to little weight in interpreting a statute; for one thing, the statement of a hearing witness reveals nothing about the intent of legislators. In part for this reason, this Court has repeatedly admonished that isolated statements in legislative hearings and committee reports cannot be used to alter the meaning of a statute revealed through its language and structure. *See, e.g., Circuit City Stores, Inc. v. Adams*, 532 U.S. 105, 119-20 (2001).

Moreover, Judge Rich later testified that a claim of contributory infringement *would* require the existence of a direct infringer. In testimony that this Court quoted in *Aro I*, he said, "I should state at the outset that wherever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed." *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the H. Comm. on the Judiciary*, 82d Cong. 151 (1951) (testimony of G. Rich) (*quoted in Aro I*, 365 U.S. at 347 n.1 (Black, J., concurring)); *see also Contributory Infringement: Hearings on H.R. 3866 Before Subcomm. No. 4 of the H. Comm. on the Judiciary*, 81st Cong. 19 (1949) (stating – in response to question whether statutory recognition of contributory infringement would broaden the law of patents – "[d]efinitely not. As I have told you, *you can always go after the direct infringer*, if you are not misusing."). Citing one of Judge Rich's statements and ignoring the other rendered the court of appeals' analysis an unpersuasive exercise in "'looking over a crowd and picking out [its] friends.'" *Exxon Mobil*, 545 U.S. at 568 (quoting an observation by Judge Leventhal).

C. Pre-1952 Cases Provide No Support for the Result Below

Because Congress replaced common-law contributory infringement doctrine with two specific statutory provisions defining indirect infringement, the text of that statute now governs. As this Court has repeatedly explained, common-law precedent that precedes a statutory enactment is at best "a tool of construction, not an extratextual supplement," and so "cannot overcome th[e] language" of the statute.

Hartford Underwriters Ins. Co. v. Union Planters Bank, N.A., 530 U.S. 1, 10 (2000); *see United States v. Ron Pair Enters., Inc.*, 489 U.S. 235, 245 (1989) (pre-enactment practice is relevant only where "statutory language . . . [is] open to interpretation"); *see also Global-Tech*, 131 S. Ct. at 2065 (noting that "we turn to the case law that predates the enactment of § 271" only after "[f]inding no definitive answer in the statutory text"). Accordingly, where Congress "ha[s] adopted" not an "unelaborated concept" from older judicial decisions "but only a specifically narrowed" version of that concept, older cases are of little use. *Hartford Underwriters*, 530 U.S. at 11. That is the case here: the Patent Act did not adopt the common law of what had been known as "contributory" infringement wholesale, but rather defined two specific types of indirect infringement.

The Federal Circuit was accordingly wrong to treat inessential holdings from *Peerless Equipment Co. v. W.H. Miner, Inc.*, 93 F.2d 98 (7th Cir. 1937), and *Solva Waterproof Glue Co. v. Perkins Glue Co.*, 251 F. 64 (7th Cir. 1918), as providing a basis to ignore the language of the provisions that Congress adopted.[18] Even if pre-1952 cases were relevant here, two circuit cases would not be enough to establish "the type of 'rule' that [this Court] assume[s] Congress was aware of when enacting" a new statutory scheme. *Ron Pair*,

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[18] In both *Peerless* and *Solva*, statements with respect to contributory infringement of method claims were inessential to the finding of liability; in each case, the defendant was also found liable for contributing to the infringement of a product claim – that is, there was actionable direct infringement (*i.e.*, making or using the patented product) to which the defendant contributed. *See Peerless*, 93 F.2d at 105 (finding that "the accused structure" infringed product claim); *Solva*, 251 F. at 73-74 (finding contributory infringement of "product" claim).

489 U.S. at 246-47 (concluding that a rule adopted by "[s]everal Courts of Appeals" was not sufficiently "well recognized" to be incorporated in the Bankruptcy Code).

There is also pre-1952 authority to the contrary. The dissenting views expressed by Justices Roberts and Frankfurter in *Mercoid* – which this Court later quoted in *Aro I* as accurately reflecting the pre-1952 law, 365 U.S. at 341 n.7 – firmly support Limelight's position here. *See supra* pp. 27-28. Congress was aware of this Court's decision in *Mercoid* when it enacted § 271 and indeed intended to overrule it in part. *See Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 198-215 (1980). There is more reason to believe that Congress would have had those dissents in mind when it enacted § 271(b) than to think that it meant to codify unnecessary portions of two decisions from a single circuit.[19]

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[19] Also, there are pre-1952 circuit and district cases linking contributory infringement specifically to the existence of direct infringement. *See, e.g., Bullock Elec. & Mfg. Co. v. Westinghouse Elec. & Mfg. Co.*, 129 F. 105, 112 (6th Cir. 1904) (explaining that, for contributory infringement, "[t]here must be shown an intent to assist another *in an infringing use* of the patented method") (emphasis added); *Conmar Prods. Corp. v. Tibony*, 63 F. Supp. 372, 375 (E.D.N.Y. 1945) ("It is not to be questioned that ordinarily there must be a completed direct infringement in order that additionally and separately there may be found infringement contributory thereto."). Even the Seventh Circuit had recognized this principle in a pre-*Solva* case. *See Popular Mechanics Co. v. Brown*, 245 F. 859, 860 (7th Cir. 1917) ("For one to be guilty of contributory infringement, there must be a direct infringement, existing or threatened – something to which to contribute.").

III. IMPOSING LIABILITY FOR "DIVIDED INFRINGEMENT" UNDERMINES INCENTIVES TO DRAFT PRECISE PATENT CLAIMS, DISCOURAGES FUTURE INNOVATION, AND INVITES BURDENSOME LITIGATION

The Federal Circuit's misreading of § 271(b) reflected its judgment that the statute, as written, fails adequately to protect patented methods that may be performed by multiple independent parties. As the United States describes the lower court's concern, "there is no obvious reason why a party should be liable for inducing infringement when it actively induces another party to perform all the steps of the process, but not liable when it performs some steps and induces another party to perform the rest." U.S. Cert. Br. 9; *see* App. 9a-10a. As the government rightly emphasizes, however, any such "intuitive" concern is beside the point in light of the clear terms of the statute. U.S. Cert. Br. 9-10. *See also Microsoft v. AT&T*, 550 U.S. at 457-59. Moving beyond intuitions, the lower court's new rule is bad policy.

A. The Federal Circuit's Rule Undermines Appropriate Incentives for Innovation

1. The Federal Circuit's expansion of § 271(b) to cover cases of "divided infringement" is both unwarranted by and contrary to the Patent Act's purpose of promoting innovation and competition. Patent exclusivity encourages innovation in two ways. First, it allows a patentee to reap a reward reflecting some portion of the value of the improvement represented by the invention over alternatives. *See* William M. Landes & Richard A. Posner, *The Economic Structure of Intellectual Property Law* 297-300 (2003). Granting such rewards to inventors provides an incen-

tive for investment in research and development. Second, the patent system requires disclosure, which enables future innovators to learn from, improve on, and invent around existing patents. *See* Janice M. Mueller, *Patent Law* 26-27 (3d ed. 2009) ("As soon as the application is published, members of the public . . . may . . . attempt to 'invent around' the patent; that is, they develop alternative devices or methods that accomplish the same purpose as the patented invention but that are sufficiently different to avoid infringement.").

The Federal Circuit's rule is bad for innovation because it improperly broadens the scope of method claims, significantly burdening rivals' efforts to invent around – or simply to avoid – a patented method. Under the Federal Circuit's rule, a patentee no longer needs to prove that the defendant carried out all the steps of the claimed method or that the defendant induced another to do so. Rather, the patentee can seek to establish liability by cobbling together the actions of multiple independent parties. And that is so even when, as in the case of Akamai's patent, none of the steps of the method is new, and the independent party may simply be doing something that it was already doing on its own – here, for example, serving its own web page. If the justification for upholding the validity of a patent on a method depends on the precise way in which the steps are performed, permitting a patentee to prevent a rival from performing fewer than all the steps because its customer separately performs an additional, entirely conventional step dramatically expands the scope of a patentee's rights and correspondingly narrows what remains in the public domain. *See* Christina Bohanna & Herbert Hovenkamp, *Creation without*

Restraint: Promoting Liberty and Rivalry in Innovation 10 (2012) ("Broad construction reduces rivals' incentives to improve by turning their improvements into infringements.").

The *Akamai* rule, moreover, exacerbates uncertainty by complicating companies' effort to determine whether the processes they employ infringe method claims. Before the *Akamai* decision, a company could evaluate the likelihood of an infringement claim by examining the steps of the method and determining whether the company performed each step. Because a company can control what activities it carries out (either directly or through agents or contractors subject to its legal control), it has the information it needs to compare its own conduct with the patent claims. Under the *Akamai* rule, by contrast, a company must attempt to take into account not only its own conduct, but also the conduct of other independent actors – for example, customers and suppliers. There may be no way to know the manner in which such independent actors carry out a particular function or use a particular service, and therefore no way to know in advance whether some combination of activities may include performance of each method step. The risk of unpredictable liability raises the costs of – and thus deters – innovation.

The requirement that a plaintiff prove intent under § 271(b), *see Global-Tech*, 131 S. Ct. at 2068, does not alleviate the problems that the Federal Circuit's new rule creates. Under the decision below, a patent owner must prove that a defendant intended to induce performance of one or more method steps, knowing that such steps, when combined with the defendant's own conduct (or other conduct the defendant "induced"), constitute all the steps of the

asserted method. *See* App. 29a-30a. Intent is too easy to plead (and too hard to disprove) to give defendants much comfort. A patent plaintiff can, for example, establish a prima facie case of intent simply by putting a potential defendant on notice – perhaps through a cease-and-desist letter, or even a mass mailing – that the defendant is allegedly engaged in joint infringement with other parties, for example, a customer, client, or patient.[20] A potential defendant – now on "notice" – may face the risk of liability for inducement going forward, or it may have to stop engaging in productive activity for fear of future liability.

Moreover, contrary to the Federal Circuit majority's suggestion, *see* App. 7a n.1, the intent requirement does not protect consumers. A patent owner can put any user of an interactive service on notice that, by employing the service, it is performing some of the steps of a patented method and "inducing" the service provider to perform the others. For example, in this case, Akamai could send letters to Limelight's customers informing them that, by continuing to serve their own web pages and redirecting requests for embedded objects to Limelight's CDN, they are performing some of the steps of Akamai's patent and inducing Limelight to carry out the remaining

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[20] *See, e.g., Telecomm Innovations, LLC v. Ricoh Co.*, Civ. No. 12-1277-SLR, 2013 WL 4017096, at *2-4 (D. Del. Aug. 6, 2013) (finding intent adequately pleaded based on decision to continue providing allegedly infringing device after notice); *see also In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1341-42 (Fed. Cir. 2012) (holding that cease-and-desist letter coupled with defendant's advertising that its product could be used in conjunction with customer software to obtain the benefits of the patented method were facts sufficient to plead notice and intent for induced infringement).

steps. Limelight's customers would be hardly better insulated from the risk of liability and vexatious litigation than Limelight itself.

On the other side of the scale, the *Akamai* rule is not needed to encourage future innovation because, as the Federal Circuit has previously acknowledged, "[a] patentee can usually structure a claim to capture infringement by a single party." *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007); *see also* Mark A. Lemley et al., *Divided Infringement Claims*, 6 Sedona Conf. J. 117, 124 (2005) ("Most inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity."). For this reason, an inventor can obtain appropriate protection for what she has invented by taking care to draft claims from the point of view of a single actor – including, as appropriate, multiple claims covering the actions of different actors.[21] If the single actor performs all the method steps, the inventor can pursue a claim against that single actor under § 271(a). No incentives to invent are lost.

2. The Federal Circuit's rule also creates damaging incentives with respect to claim drafting. As commentators have recognized, it has been established practice for many years for patent attorneys to draft method claims from the perspective of a single actor. *See* Robert C. Faber, *Faber on Mechanics of*

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[21] If an inventor realizes that he has failed to claim precisely what he invented, the Patent Act provides a mechanism for claiming additional inventions disclosed by a single specification, authorizing the filing of "continuation" applications that have the same priority date as the parent application. *See* 35 U.S.C. § 120. Akamai still has continuation applications pending based on the specification of the '703 patent.

Patent Claim Drafting § 7:3, at 7-7 (6th ed. 2012) ("Advice by this author for drafting a method claim remains as previously. Draft at least some of the method claims to focus on steps to be performed by a single entity."); Harold C. Wegner, *E-Business Patent Infringement: Quest for a Direct Infringement Claim Model* 14 (SOFTIC 2001 Symposium) (noting the need to draft claims to have "a single, direct infringer for every claim"), *available at* http://www.softic.or.jp/symposium/open_materials/10th/en/wegner-en.pdf. Such drafting adds precision, making clear not just *what must be done* but what each potential infringer *must do* to infringe. By contrast, patents that describe desired results without precisely defining how a particular step of the method is performed "may leave the outer boundaries of the claim difficult to decipher." Federal Trade Comm'n, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* 100 (Mar. 2011), *available at* http://www.ftc.gov/reports/evolving-ip-marketplace-aligning-patent-notice-remedies-competition; *see also* Executive Office of the President, *Patent Assertion and U.S. Innovation* 7-9 (June 2013) ("*Innovation Report*"), *available at* http://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf; James Bessen & Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* 219 (2008).

The Federal Circuit's rule – by expanding claims to reach conduct by multiple independent parties, albeit under § 271(b), not § 271(a) – affirmatively encourages patent applicants to avoid clarity in the hopes that the patent will reach unanticipated allocations of method steps. Patent rules should create the opposite incentive – *i.e.*, they should encourage clear

patent drafting *ex ante* to improve notice and enable incremental innovation.

B. The Federal Circuit's Rule Inflates the Value of Patents That Contribute Least to Innovation

The Federal Circuit's expansion of § 271(b) is especially damaging because it is likely to apply primarily to computer-implemented "interactive" methods, many of them business methods embodying little if any technological innovation. Software-implemented method patents pose a special risk of "dampen[ing] incentives for future innovation," because they frequently claim "exclusive rights over any device [or system] that performs a given function, regardless of how that function is performed." *Innovation Report* at 2, 8. Because such functional claiming threatens excessive enforcement – including the targeting of techniques to achieve a useful result that were not within the contemplation of the inventor – courts should be particularly unwilling to expand the scope of the patentee's monopoly by loosening the strict requirement that the accused product or process fall within the scope of the asserted claim in every respect. *See Medtronic, Inc. v. Mirowski Family Ventures, LLC*, 134 S. Ct. 843, 851-52 (2014); *see also* Colleen V. Chien, *Reforming Software Patents*, 50 Hous. L. Rev. 325, 367 (2012) ("'[C]opying' a patent that is claimed in functional language can amount to just taking the idea from another's product or description, rather than the specific embodiment of the idea."). The Federal Circuit's new divided infringement rule pushes the law in that unwelcome direction by permitting the aggregation of non-infringing conduct to establish infringement even when no individual party directly infringes.

Software patents that combine conventional or ill-defined steps are also unlikely to reflect significant, investment-backed innovation. Far from reflecting the desired "high standard of novelty and non-obviousness," *Innovation Report* at 1, 13, such patents often combine known steps in ways that may reflect, at best, incremental advance over existing processes. In the case of functional claims, a patent may leave the major difficulties of implementation unaddressed, while blocking the use of innovations that would otherwise be available to perform the claimed functions in a new and more efficient way. *See id.* at 8. Legal rules that expand the exclusive right associated with such patents skew the incentives that the patent system creates in a way that encourages excessive efforts to secure and enforce patents and discourages productive innovation.

The cases in which divided infringement claims have been pursued illustrate the problem with so-called "interactive" patents.[22] In the short time the *Akamai* rule has been in place, it has revived several district court cases that had been dismissed because the plaintiff was unable to prove that anyone directly infringed the patent.[23] It is particularly unwarranted to distort the patent law to enhance the value of

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[22] *See, e.g., Aristocrat Techs. Australia Pty Ltd. v. International Game Tech.*, 709 F.3d 1348 (Fed. Cir. 2013) (method of awarding a progressive prize in electronic games); *Move, Inc. v. Real Estate Alliance Ltd.*, 709 F.3d 1117 (Fed. Cir. 2013) (method for displaying real estate listings on a map); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008) (method of conducting bond auction over the Internet); *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007) (method claim covering use of a credit card over a telecommunications network).

[23] *See* Pet'r Cert. Reply Br. 2-3 nn.1-2.

precisely those patents that add the least and impose the greatest costs.

There were few cases implicating efforts to enforce patents based on "divided infringement" prior to 2000; now there are many. That likely reflects the fact that the issue arises primarily in response to efforts to pursue infringement claims based on interactions over communications networks – interactions that have multiplied exponentially with the rise of the Internet. We submit that allowing patentees to burden such interactions by broadening § 271(b) to reach so-called "divided infringement" is unnecessary to encourage innovation and an unwarranted tax on consumers. In any event, however, the policy balance is for Congress: "[i]f the patent law is to be adjusted better 'to account for the realities'" of the Internet, "the alteration should be made after focused legislative consideration, and not by the Judiciary forecasting Congress' likely disposition." *Microsoft v. AT&T*, 550 U.S. at 458-59.

C. There Is No Unfairness in Confining Akamai's Monopoly to the Scope of Its Claims

Refusing to expand the scope of a method claim to reach conduct by multiple actors, none of whom directly infringes those claims, does not deprive patentees of any legitimate reward for their inventions. "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotations omitted). The patent application process gives an inventor the ability to establish the boundaries of the inventor's legitimate right to exclude; a patentee cannot legitimately

complain if a competitor achieves the same result without practicing the method that the patent claims. *See Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) ("[A]s between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for [a] foreseeable alteration of its claimed structure.").

It is the Federal Circuit's decision to preserve Akamai's claim that creates unfairness in this case. There is no legitimate dispute that what Limelight does is different from what Akamai claimed. The patent recites, as one of the steps of each of the relevant method claims, "tagging" embedded objects in a webpage; three of the claims also include the step of serving the base web page. Limelight does not do either of these things. Content providers, moreover, have been serving their own base pages and redirecting requests for content since the early days of the World Wide Web. Akamai could have written a claim that included a step of "receiving a request for content wherein said content is an embedded object tagged by a content provider." In that case, Akamai could have argued that Limelight performed the relevant step. Akamai instead wrote a different claim – one that requires that the accused direct infringer perform the "tagging" step. The Patent and Trademark Office therefore has not had the opportunity to say whether a claim that covers what Limelight does would be patentable. None of the claim steps, by itself or in combination with less than all the others, can be considered inventive. *See Schumacher v. Cornell*, 96 U.S. 549, 554 (1878). That principle – which is fundamental to the patent system – makes the imposition of any liability in this case improper.

CONCLUSION

The judgment of the court of appeals should be reversed.

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RESPONDENT'S BRIEF

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LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

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THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTION PRESENTED

The jury found that Limelight directly infringed the patent-in-suit under 35 U.S.C. §271(a) because it performed most of the steps of Akamai's patented method and "directed or controlled" other parties in the performance of the remainder. A panel of the Federal Circuit disagreed, applying a rigid "single entity" rule under which two or more parties may perform all steps of a patented method with impunity, as long as they do not have a formal agency relationship or contractual obligation to perform those steps. The en banc Federal Circuit vacated the panel decision and held that Limelight could be liable for indirect infringement under §271(b).

Limelight's petition to this Court presented, and this Court granted certiorari on, the following question: "Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. §271(b) even though no one has committed direct infringement under §271(a)." Because the question regarding §271(b) is predicated on the logically antecedent question whether there is liability for direct infringement under §271(a), the following two issues are fairly included within the question presented:

Whether a defendant is (1) liable for direct infringement under 35 U.S.C. §271(a), where the defendant performs some steps of a patented method and directs, controls, or acts in concert with another who performs the remaining steps, or (2) alternatively, liable for inducing infringement under 35 U.S.C. §271(b), where the defendant knowingly causes the performance of all steps of the patented method.

CORPORATE DISCLOSURE STATEMENT

Akamai Technologies, Inc. and the Massachusetts Institute of Technology have no parent corporations. MIT does not issue stock, and no publicly held company owns 10 percent or more of Akamai's stock.

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Respondents.

**ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

BRIEF FOR RESPONDENTS

INTRODUCTION

This case concerns a patented invention fundamental to the Internet's growth in the twenty-first century, but invisible to the average user. One billion people daily rely on Akamai's services whenever they use iTunes to download songs, watch clips of basketball games on ESPN.com, browse goods for sale on Amazon.com and eBay.com, or use any of thousands of other websites that employ Akamai to distribute online content. JA81, 117-119, 124, 129. But less than two decades ago, Akamai's patented method for delivering content was just an academic theory developed by an MIT professor and a graduate student. JA91-92, 94-96.

Their genius and hard work yielded a pioneering invention, and the patent-in-suit disclosed their method for distributing content collaboratively—a method that transformed the Internet and turned Akamai into a successful business. This case involves Akamai's effort to protect that innovation, and Limelight's unauthorized use of it for its own gain.

The asserted claims involve the performance of several steps by parties working in collaboration. Limelight, a direct competitor of Akamai, performs all but one or two of those steps and instructs its content provider customers—like Microsoft, ABC Radio, and DirecTV (JA139, 177-178)—how to perform the rest. As the government concedes (Br. 9, 31), "sound patent policy" justifies holding Limelight liable in this situation. Yet Limelight insists that the Patent Act reflects a legislative judgment (or perhaps a legislative oversight) permitting Limelight to benefit from Akamai's invention with impunity, simply because no "single entity" performs all steps, as is also true when Akamai practices the claims-in-suit.

Limelight is wrong; indeed, its argument depends on rewriting the Patent Act's text and ignoring the background principles of joint liability against which Congress legislated. Limelight is in fact liable in two ways. First, as the jury found, Limelight is liable for *direct* infringement under 35 U.S.C. §271(a). Pet. App. 185a-186a. Limelight directed, controlled, or acted in concert with third parties to bring about the infringing conduct—a form of liability long recognized in patent law and analogous tort law. Second, as the en banc Federal Circuit ruled, Limelight may be liable for *induced* infringement under §271(b) because it induced third-party conduct that, when combined with Limelight's own conduct, performed all steps of the claimed

invention. Pet. App. 30a. Neither theory is rebutted by the fact that the claimed steps are performed by *two* entities rather than one. Instead, both theories are fully consistent with the text, purpose, and history of the Patent Act, this Court's decisions, the common law, and common sense.

Limelight's argument, by contrast, rests on a rigid "single entity" rule—an nonstatutory loophole created by a handful of recent Federal Circuit decisions, culminating in the panel decision in this case. Pet. App. 109a-117a; *see also id.* 30a. Under that rule, method claims that require multiple actors—including claims to many important inventions of the last century—are essentially unenforceable, and even claims requiring only a single actor can be circumvented by two actors who divide up performance of the steps. This Court should disapprove the "single entity" rule and reaffirm the long-accepted principle that a party who directs, controls, or acts in concert with another to bring about the tort of patent infringement is liable as a direct infringer under §271(a)—an issue fairly included within the grant of certiorari that would lead to reinstatement of the jury verdict. Alternatively, the Court should recognize, as the en banc Federal Circuit did, that the "single entity" rule does not confine inducement liability under §271(b). Either way, the correct result under the Patent Act is not that Limelight "avoid[s] liability altogether" (U.S. Br. 14), but that the Patent Act is enforced as written and intended: to protect innovative methods from unauthorized use.

STATEMENT

A. Akamai's Innovation

1. In the mid-1990s, four problems dramatically threatened the Internet's development. First, the number of Internet users was "exploding," "doubling every three months." JA82. Second, more data was needed to convey higher-quality pictures, video, and other objects on webpages. JA83. The resulting increased load on the Internet's infrastructure was exacerbated by the third problem: "flash crowds," which occur "when a lot of people come to a [w]ebsite all at the same time." JA85-86. The fourth problem was geographic distance: the Internet experiences greater strain when a Silicon Valley-based website is accessed by a user in Washington, DC than when the user is in Los Angeles. JA89. These factors combined to slow the Internet's speed significantly, turning the World Wide Web into "the worldwide wait." JA85.

Experts writing in the 1990s predicted that the Internet might collapse under the increasing load. JA90; *see also* Joseph, *Aloha Akamai*, Forbes (June 18, 1999), *available at* http://www.forbes.com/1999/06/18/feat.html ("Unquestionably, the time lag in network connectivity has become the most serious obstacle blocking the growth of the web."). The consequences were already being felt; a 1999 Super Bowl ad produced a flash crowd so big that it not only crashed the advertiser's website, but also shut down the Internet in Dallas, where the website was based. JA90-91.

Despite the efforts of "[r]esearchers ... all around the country," no satisfactory solution appeared. JA90. "The problem was simple to state, but the answer was nearly impossible to put a finger on." Raskin, *No Bet-*

ter Time: The Brief, Remarkable Life of Danny Lewin, The Genius Who Transformed the Internet 21 (2013).

2. Dr. Tom Leighton, a theoretical mathematics professor at MIT, began work on the problem in 1995, eventually "to the point of near obsession." JA91-92. He was soon joined by Danny Lewin, one of his graduate students. JA92.

By 1998, Dr. Leighton and Mr. Lewin had conceived of their solution, which relied on a "content delivery network" (CDN) service that was scalable, meaning that it could deliver thousands of pieces of content per second just as easily as one piece of content every few minutes. JA96, 118-119; *see also* Pet. App. 103a. Generally speaking, a CDN has three distinctive attributes: (1) "shared" servers that are (2) "distributed" geographically and (3) "flexible" in how they deliver content. JA97.

Part of the genius of Dr. Leighton's and Mr. Lewin's innovation was that it allowed the website owner (known in the patent as the "Content Provider") to "retain control" over the site's content. JA69; *see also* JA106. The patent-in-suit explains that one of the problems it addresses is the "significant need ... to provide a decentralized hosting solution" while "enabl[ing] the Content Provider to maintain control over its content" and not "disrupting the Content Provider's direct relationship with the end user." JA68.

The patented method accomplished this by having content providers "tag" content (such as image, video, and audio files) that they want the CDN, rather than their own servers, to distribute. Pet. App. 103a-104a; *see also* JA71. As stipulated below, "tagging" means having a website owner (such as ESPN.com) attach a virtual "pointer" to a piece of content (such as a picture

or video clip) so that the user's computer knows to go to the CDN's servers to get it. A17874 (defining tagging as "'providing a "pointer" or "hook" so that the object resolves to a domain other than the content provider domain'"); JA71-72, 103-104.

With the pointer in place, a user's request for an ESPN video clip is not served by the ESPN.com website but, rather, is directed to a specialized computer housed within the CDN, sometimes called the "intelligent DNS [domain name system]." JA106. The intelligent DNS automatically finds a suitable CDN server to provide the user with the video clip, taking into account whether the server is (1) close to the user, (2) not already overloaded, and (3) likely to have the clip already. JA69-70, 105; Pet. App. 141a-142a. The result is less strain on ESPN's website and on the Internet generally. *See* Joseph, *Aloha Akamai* (Akamai's "method for reproducing and routing data rapidly over a large and decentralized network of servers ... stands in great contrast to the more common centralized 'server silo' approach favored by ... competing network technology firms"). In addition, the patented method facilitates the use of the same CDN servers by multiple websites, producing a shared and highly scalable infrastructure.

Akamai's invention thus allows a website owner like ESPN—indeed, thousands of website owners simultaneously—to deliver the text for their webpages from their own servers, while tagging larger files like photos and videos for delivery from a CDN like Akamai. As a result, although a visitor to ESPN.com only sees a single webpage with text, images, and videos, ESPN only needs server capacity to deliver the text, while the photos and videos are delivered seamlessly and efficiently from Akamai's servers.

The patented method logically requires the two parties—in this example, Akamai and ESPN.com—to work together. ESPN tags the content to be delivered by Akamai, and Akamai delivers that content to users. The method's collaborative nature benefits both the CDN and the content provider. For example, ESPN constantly updates its content in real time to reflect recent developments. Tagging allows ESPN to quickly identify the content it wants delivered by Akamai, which offers not only convenience, but also efficiency. If a CDN had to do the tagging step itself—identifying each new piece of content to be delivered on behalf of thousands of content providers—the system would be unworkable.

The patent-in-suit, U.S. Patent No. 6,108,703, issued on August 22, 2000, and names Dr. Leighton and Mr. Lewin as co-inventors and MIT as assignee. JA64. Akamai is the patent's exclusive licensee. Claim 34 states:

> A content delivery method, comprising:
>
> distributing a set of page objects across a network of content servers managed by a domain other than a content provider domain, wherein the network of content servers are organized into a set of regions;
>
> for a given page normally served from the content provider domain, *tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain*;
>
> in response to a client request for an embedded object of the page:

> resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and
>
> returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

JA77 (emphasis added). Claim 19 and dependent claims 20 and 21 are similar, but require the content provider to serve the webpage's base document (usually a webpage's text without images or videos, and instructions on formatting the page). *Id.*; Pet. App. 139a-140a.

As Dr. Leighton explained at trial, the interaction between a "tagged" piece of content and the CDN's intelligent DNS was the "central idea" of the patent. JA131. No one "anywhere [had] come up with the combination of using [tagging] and an intelligent DNS in a content delivery network." *Id.*; *see also* JA69 (patent describing its "novel technique for distributing the embedded object requests").

3. Dr. Leighton and Mr. Lewin initially tried to find business partners but received little support. JA108-109. People in the technology industry "didn't think [their idea] was going to work." JA109. Internet service providers, like AOL, thought it "sounded very much like an ivory tower concept ... that ... wouldn't work in practice." *Id.* The inventors were left with two options: abandon the idea or form their own company. JA110-111.

In August 1998, they founded Akamai, initially using their personal credit cards to pay for supplies. JA111, 114. The company soon won major customers

including Disney and CNN. JA124; Raskin, *No Better Time* 131-133, 137. Indeed, in the weeks after it began offering commercial service, Akamai "delivered more than ten billion hits for some of the biggest players on the Internet." Raskin, *No Better Time* 138; *see also* Akamai Technologies, Press Release (June 2, 1999), *available at* http://www.akamai.com/html/about/press/releases/1999/press_060299b.html. The innovation was soon compared to "great historical shifts—discoveries of better, faster ways—like the invention of Arabic numerals, or the development of seafaring." Spinrad, *The New Cool: Akamai Overcomes The Internet's Hot Spot Problem*, Wired (Aug. 1999), *available at* http://www.wired.com/wired/archive/7.08/akamai_pr.html; *see also id.* ("The Web's largest sites were straining to meet demand—and frequently failing.... Tom [Leighton] and Danny [Lewin] had conceived a solution, a grand-scale alternative to the Net's routing system.").

In early 1999, Apple co-founder Steve Jobs became so enamored with Akamai that he offered to buy the company. JA121. When Dr. Leighton and Mr. Lewin declined, Apple became one of Akamai's best customers and the company's first corporate investor. JA121-122. The U.S. government also turned to Akamai, first during the "Code Red" cyber-terrorist attack in mid-2001 and again on September 11, 2001, when many government websites were overloaded. JA125-127.

B. Limelight's Infringing Conduct

Limelight was founded several years after Akamai established itself in the marketplace. JA134. The two companies are direct competitors. JA191.

Limelight's content delivery service depends on the performance of every step of the processes disclosed in claims 19-21 and 34 of the patent-in-suit. Pet. App. 4a, 106a-108a. As the claims envision (and as occurs with Akamai's own service), Limelight offers a *collaborative* service in which both the CDN and the content provider/website owner perform particular steps of the claimed methods. Specifically, Limelight performs nearly every step itself, but leaves the act of tagging (and, under claims 19-21, the act of delivering the base page) to the website owner. *Id.* 106a-107a.[1]

Tagging is vital to Limelight's business model. As Limelight's founder conceded at trial, "[i]f the customer chooses to purchase the Limelight service," the customer must use the Limelight-provided "pointer" (called a "hostname") to tag embedded objects. JA206. Otherwise, Limelight cannot deliver the customer's content. *Id.* (Limelight founder testifying that "[w]e won't see a request for ... content [from a customer] ... if the Limelight hostname is not somehow involved in

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[1] Contrary to Limelight's assertion that it is "disputed" whether its customers perform the tagging step (Br. 7 n.4), the jury found that Limelight infringed claims 19-21 and 34, thus necessarily concluding that Limelight's customers perform the tagging step (JA236-237). As the Federal Circuit panel explained, "[t]here are two tagging methods used by Limelight's customers. ... 'In the first method, the customer changes the ... address of one or more page objects in the initial web page to point to Limelight's servers (the "prepend method"). In the second method, the customer adds or changes alias information in its [domain name system] record so that the ... addresses of the page objects [direct] to Limelight's servers without requiring any change to the customer's initial web page (the "CNAME method").'" Pet. App. 106a-107a (quoting *id.* 181a-182a n.23). The jury was instructed on both tagging methods (*id.* 184a-185a) and specifically found that each infringes (JA236-237).

the process"). Thus, any time Limelight's service is used, the claimed steps of Akamai's patent are performed because a content provider has followed *Limelight's* instructions to use the *Limelight*-provided pointer to tag content.

Limelight collaborates closely with content providers to ensure that they correctly perform the tagging step. Limelight creates a unique hostname for each content provider to use when tagging, such that the Limelight network recognizes that it should serve *that* customer's content. JA192-194, 208. Limelight provides its customers with detailed instructions on how to tag. Pet. App. 115a; JA213-215, 221-226. Limelight employees are on call if a content provider needs additional assistance. Pet. App. 115a; JA216-218, 227-228. Limelight assigns each content provider "a dedicated Technical Account Manager" who Limelight promises will "coordinate between your technical team and our engineers to ensure a quick and complete implementation of your services." JA220. And Limelight's contract with its customers requires that they tag objects in the manner designated by Limelight in order to enjoy Limelight's services. JA231-232; Pet. App. 107a.[2]

As the Federal Circuit panel summarized, Limelight "calls for its customers to assign a unique hostname [to each piece of content they want served], requires content providers to perform certain claim steps

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[2] A content provider may theoretically "choose" not to tag, but that means forgoing Limelight's services. Pet. Br. 5. Whenever Limelight's services are used, the customer must perform the tagging step. The performance of the method is thus not the result of independent choices made without knowledge of what the other actor is doing; it is the product of close collaboration between Limelight and its content provider customers.

if they choose to use Limelight's service, and provides instructions and offers technical assistance for performing those steps." Pet. App. 115a. In the words of one witness: "If the customer ... wants Limelight to serve the content, it has to follow the instructions that Limelight has given them." JA132.

C. Proceedings Below

1. Akamai sued Limelight for direct and indirect infringement of claims 19-21 and 34 of the patent-in-suit, as well as infringement of two other patents not at issue here. Pet. App. 104a-105a.[3] Akamai ultimately withdrew its induced infringement argument under 35 U.S.C. §271(b) and tried its case under a joint infringement theory under 35 U.S.C. §271(a). *Id.* 109a n.3. At the time of trial, Federal Circuit case law held that an accused infringer who performed some steps of a patented method and directed or controlled a third party's performance of the remaining steps could be liable for direct infringement under §271(a). *See BMC Res., Inc.* v. *Paymentech, LP*, 498 F.3d 1373, 1381 (Fed. Cir. 2007). The jury was instructed accordingly.

The jury found the asserted claims valid and directly infringed by Limelight, thus necessarily finding that all steps of those claims were performed by Limelight and content provider customers acting under Limelight's direction or control. JA236-239. The jury awarded Akamai over $40 million in damages. JA240-242.

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[3] Limelight's discussion (Br. 5-6) of *Akamai Technologies, Inc.* v. *Cable & Wireless Internet Services, Inc.*, 344 F.3d 1186 (Fed. Cir. 2003), is irrelevant, as claims 19-21 and 34 were not at issue there. *See* 344 F.3d at 1196.

Limelight moved for judgment as a matter of law (JMOL), but the district court denied the motion, finding that the verdict, including the necessary subsidiary finding of direction and control, was supported by substantial evidence. Pet. App. 148a, 186a.

Several weeks later, the Federal Circuit issued *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), which substantially restricted the scope of joint infringement liability under §271(a). As relevant here, *Muniauction* stated that "direct infringement requires a single party to perform every step of a claimed method," and that where multiple parties perform the steps of a patented method, liability attaches "only if ... every step is attributable to the controlling party, i.e., the 'mastermind.'" *Id.* at 1329. This insistence on a hierarchical relationship meant that "'arms-length cooperation' will not give rise to direct infringement by any party." *Id.* Seeing "no material difference" between the facts of *Muniauction* and this case, the district court reversed itself and granted JMOL of noninfringement. Pet. App. 193a.

2. A panel of the Federal Circuit affirmed. Pet. App. 135a. Extending *Muniauction*, the panel decreed a bright-line rule that "direct infringement requires a single party to perform every step of a claimed method," *id.* 109a, and "there can *only* be joint infringement when there is an *agency relationship* between the parties ... or when one party is *contractually obligated* to the other to perform the steps," meaning that the contract compels the party to perform the steps, *id.* 112a (emphases added). The court reasoned that Limelight's customers were not its agents in the strict sense, nor were they contractually obligated to perform the claimed steps because they could always forgo Limelight's services. *Id.* 113a, 115a-116a. Therefore,

"[w]hile acknowledging the difficulty of proving infringement of claims that must be infringed by multiple parties," the panel held that Limelight was not liable for direct infringement. *Id.* 116a-117a.

3. The Federal Circuit granted rehearing en banc and asked the parties to address a single question:

> If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?

Pet. App. 196a. The court subsequently granted rehearing en banc in another case involving questions of induced and contributory infringement. *McKesson Techs. Inc.* v. *Epic Sys. Corp.*, 463 F. App'x 906, 907 (Fed. Cir. 2011) (per curiam). The two cases were consolidated for purposes of argument, but Akamai, Limelight, and their amici were not asked to brief or argue the additional issues.

The Federal Circuit issued a single en banc ruling deciding both cases on induced infringement grounds under §271(b). The court held that inducement requires "all the steps of a claimed method [to] be performed ... but ... it is not necessary to prove that all the steps were committed by a single entity." Pet. App. 3a. This holding partially overruled the Federal Circuit's 2007 ruling that "[i]ndirect infringement requires, as a predicate, a finding that some party amongst the accused actors has committed the entire act of direct infringement." *BMC*, 498 F.3d at 1379.

The en banc court explained that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement is not the same as requiring

proof that a single party would be *liable* as a direct infringer." Pet. App. 9a. Not only is this interpretation supported by precedent, the text of §271, legislative history, and rules in analogous areas of the law, *id.* 10a-19a, but "[i]t would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes further by actually performing some of the steps himself," *id.* 10a; *see also id.* 9a ("[T]here is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement."). Because *BMC* had prevented Akamai from raising a viable induced infringement claim earlier, the en banc court remanded for further proceedings. *Id.* 30a.

Judge Newman, writing separately, disagreed with the majority's focus on §271(b). Judge Newman noted that the case could be "readily decided" in Akamai's favor "under the present law" of direct infringement under §271(a). Pet. App. 61a (dissenting opinion). Judge Newman explained that the anomalous "single entity" rule created in *BMC* and *Muniauction* was "a departure from established precedent" and clashed with the Patent Act's text and legislative history. *Id.* 68a; *see also id.* 37a-46a. Infringement under §271(a) simply "requires that every claimed step of a patented method or system is performed in accordance with the limitations stated in the claim. Thus, when more than one entity performs all the steps, the claim is directly infringed." *Id.* 38a-39a.

In a separate dissent, Judge Linn, joined by three others, agreed with Judge Newman that the majority had wrongly "skirt[ed] ... the question of 'joint in-

fringement' liability under §271(a)." Pet. App. 71a. Section 271(a), Judge Linn concluded, "is essential to the resolution of these appeals." *Id.* Judge Linn would have held that "[u]nless someone is *liable* as a direct infringer, no one is liable for indirect infringement." *Id.* 77a (emphasis added).

Limelight petitioned for certiorari, challenging the §271(b) ruling. Akamai's opposition noted (Opp. 35-38), *inter alia*, that Limelight's petition was based on the false premise that Limelight was not liable under §271(a). Akamai also filed a conditional cross-petition, arguing that if this Court granted Limelight's petition, it should directly review the Federal Circuit's "single entity" rule under §271(a). *See* No. 12-960. The Court granted Limelight's petition; Akamai's cross-petition remains pending.

SUMMARY OF ARGUMENT

I. This case was tried based on Limelight's liability for direct infringement under 35 U.S.C. §271(a). Although Limelight's question presented concerns liability under §271(b), that question arises only on the assumption that Limelight is not liable under §271(a). Section 271(a) liability is thus a logically antecedent question that could fully resolve the case, and this Court should consider that issue first.

The text of the Patent Act and background common law principles permit and, indeed, compel liability for direct infringement of a method patent when multiple entities, working in concert or under common direction or control, perform every step of the claimed method in the United States. The Federal Circuit's contrary ruling depends on a rigid, recently minted "single entity" rule that is inconsistent with the statu-

tory language and introduces an unwarranted, nonstatutory loophole into patent protection for method claims.

Under the narrow "single entity" rule, parties who wish to practice a patented method may simply divide up the steps of the method and infringe with impunity. But traditional common law principles, which this Court often consults in interpreting the Patent Act, make clear that liability for direct infringement, as for any other tort, may arise under accepted theories of joint liability, including direction, control, or concerted action. Interpreting §271(a) in this way also aligns with the policies underlying the Patent Act while protecting unwitting actors who do not know that each step of the patented method will be performed. The jury's verdict—which found, based on substantial evidence, that Limelight directed or controlled the conduct of its content provider customers—should accordingly be reinstated.

II. Alternatively, the en banc Federal Circuit's ruling that Limelight may be held liable for "actively induc[ing] infringement of a patent" under 35 U.S.C. §271(b) should be affirmed. "Infringement" of a patent is a violation of an inventor's exclusive right to the patented invention. 35 U.S.C. §154(a)(1). "Infringement" accordingly occurs when the patented invention is made, used, offered for sale, or sold within the United States, or imported into the United States, without authorization. For purposes of the method claims in this case, the invention is used, and infringement occurs, when the claimed steps are performed in this country. Limelight "actively induces infringement" when it knowingly causes or brings about such performance of the claimed steps.

Limelight's challenge depends on rewriting §271(b) to proscribe only the inducement of "*actionable* direct infringement," which, it asserts, happens only when a single entity performs all claim steps. Pet. Br. 20, 22-23 & n.9 (emphasis added). But the statute does not say "actionable direct infringement"; it says "infringement." Holding a defendant liable when it induces all the *acts* required to constitute direct infringement—whether performed by one or more parties—is consistent with the plain text of the Patent Act of 1952, relevant pre-1952 patent cases, the law of aiding and abetting, tort principles, and this Court's precedent. Limelight's position, by contrast, would convert the inventor's "exclusive right" to the patented invention into a partial, incomplete right easily avoidable by parties who do not design around the invention, but simply structure their activity to avoid having a "single entity" perform all claim steps.

Absent clear statutory direction not present here, the Court should not assume that Congress intended the "bizarre result" (Pet. App. 10a) that an entity that performs all the steps of a patented method or induces another to perform all the steps is liable for infringement, but an entity like Limelight that performs some of the steps while inducing another to perform the rest avoids liability entirely.

III. As the government acknowledges (Br. 7), "sound reasons of patent policy" support holding Limelight liable. Limelight's rhetoric about unpredictable liability is misplaced: because joint liability under §271(a) requires direction, control, or concerted action, and because inducement liability under §271(b) requires a showing of specific intent, "innocent" or "independent" parties will not be implicated. Similarly fanciful are Limelight's attempts to portray its efforts to

create and exploit a legal loophole as "designing around" Akamai's patent. Nor can the harm from Limelight's rule be counteracted by directing all method claims to conduct performed by a single actor; not only is that often not possible (*see, e.g.*, U.S. Br. 33, ABA Br. 5), but even "single-actor" claims are ineffective if, as Limelight urges, two actors can evade liability by simply dividing up performance of the patented steps.

ARGUMENT

I. LIMELIGHT IS LIABLE FOR DIRECT INFRINGEMENT UNDER §271(a) UNDER A THEORY OF JOINT LIABILITY

A. Limelight's Liability Under §271(a) Is Fairly Included In The Question Presented

Limelight has urged this Court (Pet. Br. i; Pet. i) to determine whether "a defendant may be held liable for inducing patent infringement under 35 U.S.C. §271(b) even though no one has committed direct infringement under §271(a)." The meaning of "direct infringement under §271(a)," and in what circumstances liability for such infringement attaches, is thus "a predicate to an intelligent resolution of the question presented, and therefore fairly included therein." *Ohio* v. *Robinette*, 519 U.S. 33, 38 (1996) (internal quotation marks omitted); *Caterpillar Inc.* v. *Lewis*, 519 U.S. 61, 75 n.13 (1996).

The centrality of §271(a) is reinforced by the attention it receives throughout Limelight's brief, which contains repeated assertions about what constitutes infringement under §271(a). *E.g.*, Br. 1 ("[T]o establish direct infringement under §271(a), the patent owner must prove that the accused infringer performed all the steps of the claimed method, either personally or

through another acting under his direction or control."); *see also id.* 18 ("[T]he conduct by Limelight and its customers does not constitute direct infringement ... under §271(a)."); *id.* 16, 22-23, 31. The government goes even further by *advocating* that §271(a) has "limitations ... in addressing cases like this one" (Br. 13) and that Limelight may "avoid liability altogether" because, in the government's view, "traditional principles of vicarious liability would not support attributing customers' voluntary actions to the vendor for purposes of direct-infringement liability" (*id.* 14). And, as Limelight is at pains to point out (Br. 8), this case was litigated throughout under §271(a).

The issues of liability under §271(a) and (b) are therefore inextricably intertwined—indeed, the §271(a) issue is logically prior to the §271(b) issue. This Court should not undertake an unduly narrow review of Limelight's potential liability under §271(b) that rests on an erroneous assumption about §271(a). *See Lebron* v. *National R.R. Passenger Corp.*, 513 U.S. 374, 382 (1995) ("When a question is ... both prior to the clearly presented question and dependent upon many of the same factual inquiries, refusing to regard it as embraced within the petition may force us to assume what the facts will show to be ridiculous, a risk that ought to be avoided.").

Even if Limelight's question presented were not expressly premised on assumptions regarding §271(a), consideration of Limelight's liability under that provision would still be appropriate, as several amici recognize. *E.g.*, ABA Br. 7-8; IBM Br. 25-29; IPO Br. 15-19. Indirect infringement "is merely a species of the broader problem of identifying the circumstances in which it is just to hold one individual accountable for the actions of another." *Sony Corp. of Am.* v. *Universal City Stu-*

dios, Inc., 464 U.S. 417, 435 (1984). Thus, in the copyright context, this Court has held that "the lines between direct infringement, contributory infringement and vicarious liability are not clearly drawn" and that "[r]easoned analysis of [a contributory infringement claim] necessarily entails consideration of arguments and case law which may also be forwarded under the other labels." *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster, Ltd.*, 545 U.S. 913, 930 n.9 (2005) (internal quotation marks omitted); *see also Sony*, 464 U.S. at 435 n.17. The same reasoning applies here.

If this Court decides the §271(a) question as the law directs and as the jury was instructed (Pet. App. 185a-186a; JA236-237), the decision will fully resolve this case and others. *See U.S. Nat'l Bank of Or.* v. *Independent Ins. Agents of Am., Inc.*, 508 U.S. 439, 447 (1993) ("[A] court may consider an issue 'antecedent to ... and ultimately dispositive of' the dispute before it." (quoting *Arcadia* v. *Ohio Power Co.*, 498 U.S. 73, 77 (1990))). Accordingly, liability under §271(a) is a "prior question" that this Court can and should decide before addressing §271(b). *Lebron*, 513 U.S. at 381 (emphasis omitted).

B. Section 271(a) Permits Joint Liability For Direct Infringement Under A Theory Of Direction, Control, Or Concerted Action

1. The Federal Circuit has created an inflexible "single entity" rule under §271(a), whereby "direct infringement requires a single party to perform every step of a claimed method" and "'arms-length cooperation' will not give rise to direct infringement by any party." *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008). This judicially created rule dates back only a few years and has become significant-

ly more rigid in successive cases, culminating in the panel decision in this case, which imposed a *per se* rule of no §271(a) liability except in cases involving a formal agency relationship or contractual obligation to perform claimed steps. Pet. App. 109a-112a.

Any "gap" in infringement liability on the facts of this case (*see* U.S. Br. 14) is not a gap in the *statute*, but a gap that the Federal Circuit created with its narrow "single entity" rule. When the statute is properly interpreted, there is no "gap" in §271(a) liability at all.

Section 271(a) provides that "*whoever* without authority ... uses ... any patented invention ... infringes the patent." 35 U.S.C. §271(a) (emphasis added). The word "whoever" is not limited to a single entity. The Dictionary Act directs that, "[i]n determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things." 1 U.S.C. §1. The Dictionary Act also specifies that "the words 'person' and 'whoever' include corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals." *Id.*; *see also American Heritage College Dictionary* 1540 (3d ed. 1997) (defining "whoever" as "[w]hatever person or *persons*" (emphasis added)).

Other Patent Act provisions also use "whoever" to refer to multiple actors. For example, the statute repeatedly uses "whoever" to refer to inventors who may obtain patents, including *joint* inventors. *E.g.*, 35 U.S.C. §101 ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter ... may obtain a patent therefor[.]"); *id.* §161 (same for plant patents); *id.* §171 (same for design patents). Because multiple inventors may jointly hold a

patent, *id.* §116(a), the term "whoever" necessarily includes multiple actors. It follows that the same word, when used in §271(a), also covers multiple parties that together "use[]" an invention without authorization. *See Sullivan* v. *Stroop*, 496 U.S. 478, 484 (1990) ("[I]dentical words used in different parts of the same act are intended to have the same meaning." (internal quotation marks omitted)).

Limelight does not address §271(a)'s use of the word "whoever"; it simply asserts that "performance of less than all the steps of a method ... does not constitute direct infringement." Pet. Br. 22-23; *see also* U.S. Br. 11 ("use" of patented invention requires performance of all steps). But the requirement that all claim steps be performed has never been disputed. The dispute is over *who* must perform those steps in order to trigger liability for direct infringement. Rather than address the actual statutory term that answers that question—"whoever"—Limelight and the government rewrite the statute, under the guise of paraphrase, to substitute singular terms like "one," "he," "the accused infringer," "a defendant," a "person," or "a party." Pet. Br. 22, 24; U.S. Br. 8, 11, 12, 16. They never explain why an invention is not "use[d]" (U.S. Br. 11)—or a patentee's "exclusive rights" are not "invade[d]" (Pet. Br. 22)—when all steps of the patented method are performed by "whoever," including two parties acting in concert. In fact, just as two parties jointly invent a patented method when, in collaboration, one invents some steps and the other invents the rest, 35 U.S.C. §101 ("[w]hoever invents"), two parties jointly "use[]" a patented method when, in collaboration, one performs some steps and the other performs the rest, *id.* §271(a) ("whoever ... uses").

2. Common law principles against which Congress legislated also support recognizing joint liability under §271(a). "[W]here Congress uses a common-law term in a statute, we assume the 'term ... comes with a common law meaning,'" *Microsoft Corp.* v. *i4i Ltd. P'ship*, 131 S. Ct. 2238, 2245 (2011), and "'[t]he common law ... ought not to be deemed repealed, unless the language of a statute be clear and explicit for this purpose,'" *Norfolk Redevelopment & Hous. Auth.* v. *Chesapeake & Potomac Tel. Co.*, 464 U.S. 30, 35 (1983).

Here, common law tort principles are highly probative. Patent infringement, "whether direct or contributory, is essentially a tort." *Carbice Corp. of Am.* v. *American Patents Dev. Corp.*, 283 U.S. 27, 33, *supplemented on reh'g by* 283 U.S. 420 (1931). This Court has accordingly relied on tort analogies in interpreting the Patent Act. *E.g.*, *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 377 U.S. 476, 500-501 (1964) ("*Aro II*") (noting that "a contributory infringer is a species of joint-tortfeasor" and discussing common law tort principles).

The government concedes that "in enacting the Patent Act, Congress 'legislate[d] against a legal background of ordinary tort-related vicarious liability rules and consequently intend[ed] its legislation to incorporate those rules.'" U.S. Br. 12 (quoting *Meyer* v. *Holley*, 537 U.S. 280, 285 (2003)). But without citing any authority (*id.*), the government assumes that the Federal Circuit's narrow "single entity" rule is consistent with those background principles when, in fact, it is not.

At common law, a person was "subject to liability for the consequences of another's conduct which results from his directions as he would be for his own personal conduct if, with knowledge of the conditions, he intends

the conduct, or if he intends its consequences." *Restatement of Agency* §212 (1933). This rule "is not dependent upon the law of agency but results from the general rule, stated in the Restatement of Torts, that one causing and intending an act or result is as responsible as if he had personally performed the act or produced the result." *Id.* §212 cmt. a. It "is equally applicable to situations not involving an agency relationship." *Id.*; *see also Restatement (Second) of Torts* §877 cmt. a (1979) ("[O]ne who accomplishes a particular consequence is as responsible for it when accomplished through directions to another as when accomplished by himself. ... [The rule] is independent of the existence of liability upon this [master/servant] ground."). For example, in *Haynie* v. *Jones*, 127 S.W.2d 105, 108 (Mo. Ct. App. 1939), the defendant was subject to "direction and control" liability for his friend's negligent driving where the defendant's father owned the car and the defendant was "in the front seat and assisting in and directing its driving."

The law has also long recognized joint liability for torts committed by multiple defendants acting in concert. "The original meaning of a 'joint tort' was that of vicarious liability for concerted action." Prosser, *Handbook of the Law of Torts* §109 (1941); *see also Restatement (Second) of Torts* §876(a) (a person is liable when he "does a tortious act in concert with the other or pursuant to a common design"); Harper, *A Treatise on the Law of Torts* §302 (1933) (joint liability when there is "concert of action," meaning "two or more persons actually participate in the wrongful action in pursuance of a common plan or design"); 2 Dobbs et al., *The Law of Torts* §435 (2d ed. 2011) (joint liability for "[t]hose who cooperate, tacitly or expressly, in particu-

lar conduct to pursue a common illegal design" (footnote omitted)).

Contrary to the Federal Circuit's *per se* rule (Pet. App. 111a-113a), the common law did not restrict joint liability for concerted action to cases in which one party was another's agent or contractual obligor. Rather, a "common plan or design" was sufficient. Harper §302; *see also* Prosser §109 ("common purpose, with mutual aid in carrying it out"). Thus, two people were jointly liable when "there was evidence which tended to show that they acted in concert, and to accomplish a common object" even though they "did not participate directly in all of the ... acts of the other." *Price* v. *Price*, 60 N.W. 202, 205 (Iowa 1894). And even without a "prearranged plan," joint liability arose when "one person act[ed] to produce injury with full knowledge that others [we]re acting in a similar manner and that his conduct w[ould] contribute to produce a single harm." Harper §302. For example, in *Warren* v. *Parkhurst*, 92 N.Y.S. 725, 725-726 (N.Y. Sup. Ct. 1904), twenty-six mill owners were sued for "discharging sewage and other foul matters into the creek" where "if but one of the defendants was discharging into the stream, the use might not be unreasonable" and "no liability would arise." The suit could be maintained because "while each defendant acts separately, he [wa]s acting at the same time in the same manner as the other defendants, *knowing* that the contributions by himself and the others ... w[ould] result necessarily in the destruction of the plaintiff's property." *Id.* at 727 (emphasis added).

Courts also imposed liability for harm done by multiple actors, even though each act alone was not a tort. *See* Prosser §47 ("[A]cts which individually would be innocent may be tortious if they thus combine to cause damage."); *see also infra* pp. 44-45. Provided a defend-

ant "knows ... that his conduct may concur with that of others to cause damage," he may be held jointly liable. Prosser §47; *see also Folsom* v. *Apple River Log-Driving Co.*, 41 Wis. 602, 610 (1877) (liability for flooding due partially to defendant's dam was not excused by the existence of another obstruction that contributed to the flood, where defendant "had notice beforehand of such obstruction, and of the fact that its effect, together with the company's use of the water beyond its natural flow, would be to flo[od] the plaintiff's land").

As applied in the §271(a) context, these common law principles ensure that unwitting actors are not held liable. Only those entities who direct or control others or know that each step of the patented method will be performed through their concerted action will be liable based on the totality of the acts performed in concert. Thus, concerns about "being forced to speculate about the conduct of independent third parties" (CTIA Br. 14), the unknown "activities of other actors along a supply chain" (Cargill Br. 24), configurations of a network that are "not known" (Google Br. 14), and the other hypotheticals advanced by Limelight's amici are inapposite. The common law's calibrated approach, as applied to §271(a), protects actors who do not know that a patented method is being performed.[4]

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[4] This does not mean that direct infringement acquires an intent element. *See* IPO Br. 13-15. Rather, knowledge is the common law's test for determining whether a defendant is responsible for the acts of *others* combined with its own acts. Once that knowledge is shown, then the combined conduct is evaluated for its tortious character—which, in the case of direct infringement under §271(a), is done by comparing the accused conduct to the asserted patent claims on a strict liability basis. *See Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 n.2 (2011).

3. These joint liability principles were applied in patent cases predating the 1952 Patent Act. *See Warner-Jenkinson Co.* v. *Hilton Davis Chem. Co.*, 520 U.S. 17, 26 (1997) ("[P]re-1952 precedent survived the passage of the 1952 Act."). Before becoming President and Chief Justice, then-Judge William Howard Taft explained that joint liability for patent infringement was consistent with common law tort principles and essential to fulfilling the purpose of the patent laws:

> An infringement of a patent is a tort analogous to trespass or trespass on the case. From the earliest times, all who take part in a trespass, either by actual participation therein or by aiding and abetting it, have been held to be jointly and severally liable for the injury inflicted. There must be some concert of action between him who does the injury and him who is charged with aiding and abetting, before the latter can be held liable. When that is present, however, the joint liability of both the principal and the accomplice has been invariably enforced. If this healthful rule is not to apply to trespass upon patent property, then, indeed, the protection which is promised by the constitution and laws of the United States to inventors is a poor sham.

Thomson-Houston Elec. Co. v. *Ohio Brass Co.*, 80 F. 712, 721 (6th Cir. 1897); *see also York & Md. Line R.R. Co.* v. *Winans*, 58 U.S. (17 How.) 30, 40 (1854) (a railroad company that owned rails on which a different company operated infringing cars for both companies' profit was "a principal, cooperating with another corporation, in the infliction of a wrong, and ... directly responsible for the resulting damage"); *Wallace* v. *Holmes*, 29 F. Cas. 74, 80 (C.C.D. Conn. 1871) (imposing

joint liability where the parties "engaged in a common purpose to infringe the patent, and actually, by their concerted action, produc[ed] that result"); *New Jersey Patent Co.* v. *Schaeffer*, 159 F. 171, 173 (C.C.E.D. Pa. 1908) ("Where an infringement of a patent is brought about by concert of action between a defendant and complainants' licensee, all engaged directly and intentionally become joint infringers."); *Jackson* v. *Nagle*, 47 F. 703, 704 (C.C.N.D. Cal. 1891) (contractor and subcontractors were liable as "joint infringers" of a method claim where "a portion of the work was done by ... the contractor, and other portions by the subcontractors").

Similarly, leading pre-1952 patent treatises by Robinson and Walker, which this Court has often consulted, recognized joint liability for patent infringement beyond the narrow confines of the Federal Circuit's "single entity" rule. Robinson's 1890 treatise taught that "[a]n act of infringement is committed by ... acting in complicity with others under any cover or pretense the practical effect of which is an invasion of the monopoly created by the patent. All who perform or who unite in the performance of an act of infringement, by any of these methods, may be sued jointly or severally at the option of the plaintiff[.]" *The Law of Patents for Useful Inventions* §946 (1890) (footnote omitted). And Walker confirmed that "[w]here several persons cooperate in any infringement, all those persons are liable therefor as contributors thereto. In that, as in all cases of torts for which several persons are liable, all may be sued jointly, or any of them may be sued alone." *Text-Book of the Patent Laws of the United States of America* §406 (4th ed. 1904) (footnote omitted).

Several patent cases decided shortly before the Federal Circuit adopted its "single entity" rule continued to follow these principles. *E.g.*, *On Demand Mach.*

Corp. v. *Ingram Indus., Inc.*, 442 F.3d 1331, 1345 (Fed. Cir. 2006) ("discern[ing] no flaw" with jury instruction that "'[w]here the infringement is the result of the participation and combined action(s) of one or more persons or entities, they are joint infringers'"); *Hill* v. *Amazon.com, Inc.*, 2006 WL 151911, at *2 (E.D. Tex. Jan. 19, 2006) ("[A]lthough proof of an agency relationship or concerted activity would be sufficient to impose liability ... such a showing is not invariably required.").

Thus, Akamai is not arguing that the scope of infringement liability "is wider ... than courts had previously thought." *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 531 (1972). Rather, Akamai simply seeks restoration of the correct interpretation of joint liability under §271(a), consistent with the Patent Act's text and the common law, which was upended when the Federal Circuit adopted its unjustified "single entity" rule in *Muniauction* and the panel decision in this case.[5]

C. Recognizing Joint Liability Under §271(a) Furthers The Patent Act's Purposes; A Rigid "Single Entity" Rule Does Not

Beyond its inconsistency with the Patent Act's text and common law principles, the Federal Circuit's inflexible "single entity" rule undermines the very pur-

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[5] Notably, the Federal Circuit panel in this case leapt from uncontroversial statements that an unconditional contractual obligation or agency relationship "may" trigger joint liability to a *per se* rule that "there can *only* be joint infringement" in those two circumstances. Pet. App. 111a-112a (emphasis added). The panel cited no authority, and certainly no statutory or common law basis, for its conclusion that those two scenarios are the *only ones* where joint liability is appropriate.

pose of the Patent Act, as it encourages and rewards gamesmanship with no concomitant benefit.

Under the Federal Circuit's current view of §271(a), two or more parties seeking to capitalize on another's patented method may join forces and agree to divide up the steps of the method, as long as they are not in a formal agency relationship and their scheme is not memorialized as an unconditional contractual obligation. The Federal Circuit thus acknowledged that its rule will permit multiple parties engaged in "'arms-length cooperation'" "to perform every step of a claimed method" to avoid liability. *Muniauction*, 532 F.3d at 1329.

Following *Muniauction*, the Federal Circuit approved a judgment of no liability in a case in which two companies formed a "strategic partnership" and "collaborated to sell ... two programs as a unit" that, in combination, practiced all steps of a patented method. *Golden Hour Data Sys., Inc.* v. *emsCharts, Inc.*, 614 F.3d 1367, 1371 (Fed. Cir. 2010). Consistent with that "absurd conclusion" (ABA Br. 8a), industry publications now recommend structuring a contract to make clear "that it is the result of an arm's length negotiation" and to "specifically disclaim any agency relationship" in order to avoid infringement liability. Gray, *Contract Clauses Offer Protection in Infringement Suits*, 25 In-HouseTexas 7, 8 (Jan. 11, 2010); *see also* ABA Br. 9a ("[M]any companies are modifying their standard contracts with the express goal of taking advantage of this loophole.").

The result of the Federal Circuit's rigid "single entity" rule is accordingly that method patents may be practiced with impunity by multiple parties acting in concert—a situation that gives method claims "little

value," *Wallace*, 29 F. Cas. at 80, and leaves them "a poor sham," *Thomson-Houston*, 80 F. at 721 (Taft, J.). Absent clear textual direction, this Court does not typically interpret statutes in a manner that renders them ineffective or easily circumvented. Under the Federal Circuit's rule, however, Congress's express recognition that a "new and useful process" is worthy of patent protection, 35 U.S.C. §101, is significantly undercut, because it is "relatively easy for an entity to structure its business dealings" to avoid any liability, even if its business model (like Limelight's) relies on the performance of every step of a patented method. ABA Br. 8; *see also* Robinson, *No "Direction" Home: An Alternative Approach to Joint Infringement*, 62 Am. U. L. Rev. 59, 100 (2012) ("[A] rule based solely on the relationship between relevant actors creates a legal loophole ... [that] is a roadmap for perceptive entities, allowing them to reap the benefit of a patent that cannot be enforced.").

Limelight's suggestion (Br. 42) that its outsourcing of one or two claim steps to content providers constitutes "improv[ing] on" or "invent[ing] around" the patented method only confirms the extremity of its position. Limelight has not developed an "'alternative device[] or method[] ... that [is] sufficiently different'" from Akamai's. *Id.* Instead, Limelight's service depends on the performance of *exactly* the steps claimed in the patent-in-suit. Limelight simply seeks to benefit from the rigid "single entity" rule that the Federal Circuit declared in 2007 and then narrowed after this case went to verdict.[6]

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[6] Given that the "single entity" rule is of recent vintage, claims of disrupting "'settled expectations'" or reliance on "previously-established law" (U.S. Br. 31-32) carry no weight. Relatedly,

Notwithstanding contrary assertions (*e.g.*, U.S. Br. 31; Microsoft Br. 3), this Court can and should correct that rule without waiting for Congress. The narrow "single entity" rule is not the product of legislative judgment, but of an erroneous, recent interpretation by panels of the Federal Circuit. This Court has not hesitated to correct such errors in the past. *E.g.*, *Merck KGaA* v. *Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005). Indeed, this Court need not develop new doctrine under §271(a), but merely declare the end of the brief interregnum of *Muniauction* and the panel decision in this case. Although Congress can certainly act if it disagrees and wants to narrow §271(a)'s text and deviate from the common law, Congress already spoke when it enacted non-limiting language ("whoever ... uses") against a backdrop of common law liability for direction, control, or concerted action. The proper way to defer to Congress's policymaking role is to enforce that provision as written and to hold Limelight liable.[7]

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the notion that patent claims requiring more than one actor were previously "prohibited" or "unenforceable" (Google Br. 24) is bizarre. Claims requiring multiple actors have been long known, and the only settled expectations that have been upset are those of inventors whose rights have been undermined by the Federal Circuit's newly minted "single entity" rule. *See infra* pp. 53-54.

[7] This case is markedly different from *Deepsouth*, where the statute expressly answered the question at issue by providing that infringing conduct must occur "within the United States." 35 U.S.C. §271(a); *Deepsouth*, 406 U.S. at 527 ("The statute makes it clear that it is not an infringement to make or use a patented product outside of the United States."). Here, by contrast, *no* statutory language supports the Federal Circuit's "single entity" rule. *See supra* pp. 22-23.

Microsoft Corp. v. *AT&T Corp.*, 550 U.S. 437 (2007), is likewise inapposite, as there is no extraterritoriality issue in this case, and the accused conduct *does* infringe the patent "[u]nder a con-

D. The Jury's Finding That Limelight Directed Or Controlled All Steps Of The Claimed Method Is Sufficient To Impose Liability Under §271(a)

To resolve this case, this Court need only clarify that—contrary to the Federal Circuit panel's narrow "single entity" rule—a party may "direct or control" another in circumstances other than formal agency and certain contractual relationships. *See* IPO Br. 4, 17. Such a holding would lead to reinstatement of the jury verdict in this case.

The district judge instructed the jury to evaluate the "interaction" between Limelight and its content provider customers to determine whether the content providers acted under Limelight's "'direct[ion] or control'" or "'entirely independently.'" Pet. App. 185a. Over thirteen trial days, the jury heard testimony about the detailed directions that Limelight gives content providers regarding how to perform some of the patented steps, and how Limelight assigns each content provider a "dedicated Technical Account Manager" to assist it in doing so. *Id.* 115a; JA216-218, 220, 227-228. The jury also learned that, to use Limelight's services, content providers are contractually *required* to perform the method steps as Limelight directs using the tag that Limelight has provided. JA231-232; *see also* JA132.

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ventional reading" of §271, *see id.* at 452, because the patented invention is being "use[d]" in the United States through the performance of all claim steps by Limelight and others acting at its direction or in concert with it. *See* Ten IP Professors Br. 13 n.3 (conceding that "the extraterritoriality issue ... is not present in the case ... at present" (emphasis omitted)).

Based on this and other evidence, the jury found that Limelight directly infringed, and the district judge initially denied JMOL, ruling that "there was evidence that not only was there a contractual relationship between Limelight and its customers, but that [Limelight] provided those customers with instructions explaining how to utilize its content delivery service." Pet. App. 186a. The judge held this sufficient to find Limelight liable under a "direction or control" theory. It was only after the Federal Circuit decided *Muniauction* that the judge reversed course, finding "no material difference between Limelight's interaction with its customers and that of [the defendant] in *Muniauction*." *Id.* 193a.

Thus, this Court need only clarify that, while a strict agency relationship or unconditional contractual obligation is certainly *sufficient* to impose joint infringement liability under §271(a), it is by no means *necessary*. Rather, "direction or control" should be a flexible, fact-intensive standard that includes situations in which one party instructs another on performing patented method steps and, as here, expects and needs the other to perform those steps to achieve a common aim. *Accord* ABA Br. 1; IPO Br. 17-18. As the district court held, Akamai sustained its burden under that correct, pre-*Muniauction* version of the direction or control test. Pet. App. 186a.

Akamai has also sustained its burden under a concerted action theory. Limelight "actually participate[d] in the wrongful action" by performing all the steps of Akamai's patented method together with its customers "in pursuance of a common plan," Harper §302, to achieve "efficient content delivery," Pet. App. 4a. And Limelight possessed the requisite knowledge that its customers performed the remaining steps of Akamai's

method that Limelight did not itself perform (tagging and base page delivery). Indeed, it instructed them how and gave them the means to do just that. Pet. App. 115a; JA213-215, 221-226.

Accordingly, the judgment of direct infringement against Limelight should be reinstated. That outcome would resolve the case and obviate the need to reach §271(b), which this brief addresses in the alternative below.

II. LIMELIGHT MAY BE HELD LIABLE FOR "ACTIVELY INDUC[ING] INFRINGEMENT" UNDER §271(b)

A. A Defendant "Actively Induces Infringement" Of A Method Claim When It Causes The Performance Of All Claimed Steps In The United States, Whether Or Not The Steps Are Performed By A Single Entity

"Whoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. §271(b). Applying this provision, the en banc Federal Circuit recognized that "there can be no indirect infringement without direct infringement." Pet. App. 8a. But it correctly rejected the notion—which had crept into panel decisions—that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement" requires that "a single party would be *liable* as a direct infringer." *Id.* 9a. The en banc court's ruling is consistent with §271(b)'s language and history, other provisions of the Patent Act, this Court's case law, and principles in analogous fields.[8]

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[8] Thus, the en banc court did not "hold[] that there no longer is a requirement of a finding of §271(a) infringement as a predicate for inducement liability." Google Br. 6; *see also* Microsoft Br. 4, 8; IBM Br. 8-9; IPO Br. 13. Nor was there any "elimination of the 'all

Limelight's contrary reading of the statute depends on importing a nonstatutory requirement that the infringement induced under §271(b) be independently "actionable" under §271(a). *E.g.*, Pet. Br. 1, 2, 16, 20. But the statute is not so worded. Section 271(b) refers to inducing "infringement," not to inducing "actionable infringement" or "a single entity to infringe."

"Infringement," in the intellectual property context and elsewhere, has always meant an encroachment upon, invasion of, or violation of a right. *Black's Law Dictionary* 851 (9th ed. 2009) ("*Intellectual property.* An act that interferes with one of the exclusive rights of a patent[.]"); *see also Black's Law Dictionary* 961 (3d ed. 1933) ("A breaking into; a trespass or encroachment upon; a violation of a law, regulation, contract, or right. Used especially of invasions of the rights secured by patents[.]"); Black, *A Dictionary of Law* 622 (1891) (same); *American Heritage College Dictionary* 698 ("[a]n encroachment, as of a right or privilege"). In all of these definitions, infringement refers to harm inflicted upon a rights-holder, irrespective of how or by whom and whether any one person is liable.

Congress's reference to "infringement of a patent" in §271(b) thus encompasses any situation in which the patentee's exclusive right to its patented invention is violated by the invention's unauthorized practice in the United States. *Carbice*, 283 U.S. at 33 ("Infringement, whether direct or contributory, ... implies invasion of some right of the patentee."). The Patent Act defines the "right" granted to the patentee as "the

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elements' ... rule." Google Br. 6; *see also* U.S. Br. 11; IBM Br. 12. Rather, the court simply recognized that "infringement" occurs when "all elements" of the patented method are practiced in the United States, whether or not performed by a "single entity."

right to exclude others from making, using, offering for sale, or selling the invention throughout the United States." 35 U.S.C. §154(a)(1); *see also Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 455 (2007) (citing §154(a)(1) as setting forth the "exclusive rights in an invention within the United States" granted to a patentee).

Section 271(a) mirrors this grant of rights. Indeed, §271(a) "[wa]s not actually necessary because the granting clause [§154(a)(1)] creates certain exclusive rights and infringement would be any violation of those rights." H.R. Rep. No. 82-1923, at 9 (1952); *accord* S. Rep. No. 82-1979, at 8 (1952).[9]

Thus, in the case of a method patent, infringement occurs when the invention is used through the performance of all its steps without authorization in the United States. *E.g.*, *Aro II*, 377 U.S. at 484 ("[I]t has often and clearly been held that unauthorized use, without more, constitutes infringement."); *see also* Robinson §925 ("The infringement of a patented art consists only in the performance of all the acts of which it is composed or their equivalents, in the manner and in the order in which they are claimed in the patent."). Indeed, this Court's first indirect infringement case focused on

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[9] Judge Linn's dissent below (Pet. App. 74a; *see also* Clearing House Br. 7; Microsoft Br. 4-5) invoked an earlier sentence from the same paragraph of the House and Senate Reports, which states that §271(a) "is a declaration of what constitutes infringement." As noted in text, the reports hasten to add that §271(a) is unnecessary and that "infringement" is any violation of rights defined by §154(a)(1). Thus, in context, the statement about §271(a) declaring "what constitutes infringement" is a reference to the *acts* listed in both §271(a) and §154(a)(1) (including "us[e]"), not a statement that induced infringement requires *liability* under §271(a).

whether the defendants "intend[ed] to have [their device] used ... to produce *the results* set forth in the [inventors'] patents." *American Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89, 95 (1882) (emphasis added).

Performance of the claimed method is an "infringement" for purposes of §271(b), regardless of how many actors perform it, because performance violates the patentee's "right to exclude others from ... using ... the invention." 35 U.S.C. §154(a)(1). What matters is the "impact on the patentee" (Pet. App. 9a), namely that the invention to which it has an exclusive right has been "use[d]" in the United States.

Contrary to the en banc dissenters' assertion (Pet. App. 69a; *see also* Google Br. 8), this understanding of §271(b) does not give "infringement" a different meaning in §271(a) and (b). "Infringement" in both sections refers to conduct that invades the patentee's rights—here, the "use" of the claimed process without authorization in the United States. Indeed, it is Limelight that effectively amends the statutory grant to provide only "the right to exclude [*a single actor*] from ... using ... the invention," a limitation found nowhere in the statute.

Section 282 reinforces the understanding of "infringement" as an invasion of the patentee's exclusive right to practice its invention, rather than a reference to *liability* of a single actor for direct infringement. Section 282(b)(1) creates separate defenses for "[n]oninfringement" and "*absence of liability* for infringement." 35 U.S.C. §282(b)(1) (emphasis added). If, as Limelight suggests, infringement meant "actionable direct infringement," then the second provision would not only be redundant of the first, but also internally

self-contradictory, since an absence of liability would mean no infringement to begin with.

Limelight argues (Br. 25-26) that post-1952 additions to §271 demonstrate that congressional action is required to extend infringement liability beyond Limelight's narrow interpretation of §271(b). But §271(e)(2), (f), and (g) were added to address *acts* that go beyond "making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States." 35 U.S.C. §154(a)(1); *see also* U.S. Br. 16 n.2 (noting that §271(e)(2) and (g) "provide that certain narrow categories of conduct that are not encompassed by Section 271(a) also constitute infringement"). Nothing in these provisions undermines the en banc Federal Circuit's holding that inducing infringement of a patented method simply means inducing the performance in the United States of every step of the method. Indeed, as the court noted, provisions like §271(e)(2) show that "the statute uses the term 'infringement' in a way that is not limited to the circumstances that give rise to liability under section 271(a)." Pet. App. 20a.[10]

Pre-1952 patent cases support this understanding of "infringement" as an invasion of rights, regardless of how many actors are involved. This Court has recog-

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[10] The government's invocation of §281 (Br. 17-18) fares no better. Section 281, which grants patentees a "remedy by civil action for infringement," was intended as a preamble to the section on remedies and, as the en banc court concluded (Pet. App. 21a), merely ensures the right to a jury trial under the Seventh Amendment. *See* H.R. Rep. No. 82-1923, at 10, 29; Federico, *Commentary on the New Patent Act*, *reprinted in* 75 J. Pat. & Trademark Off. Soc'y 161, 215 (1993); *see generally* 35 U.S.C. ch.29, §§281-299 ("Remedies for Infringement of Patent, and Other Actions").

nized that pre-1952 law is particularly relevant to interpreting §271(b), as "[t]he section was designed to codify in statutory form principles of contributory infringement which had been part of our law for about 80 years." *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065-2066 (2011) (internal quotation marks omitted); *see also* H.R. Rep. No. 82-1923, at 5 (statute incorporates "*the judicial doctrine* of contributory infringement in §271" (emphasis added)).

Pre-1952 patent law established that "[t]o use in part with intent that others shall complete the operation ... is likewise an infringement." Robinson §904; *see also Solva Waterproof Glue Co.* v. *Perkins Glue Co.*, 251 F. 64, 73-74 (7th Cir. 1918) (defendant who performed part of a patented process with the intent that its customers perform the remaining step was liable because "one who makes and sells one element of a patented combination with the intention and for the purpose of bringing about its use in such a combination is guilty of contributory infringement"); *Peerless Equip. Co.* v. *W.H. Miner, Inc.*, 93 F.2d 98, 105 (7th Cir. 1937) (holding defendant "guilty of contributory infringement of each of the process claims," even though when the defendant "deliver[ed] its gears to the purchaser the final step in each of the process claims ha[d] not been taken," because the defendant also knew that railroad purchasers of its products would "complet[e] the final step of the process").[11]

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[11] The government misses the point in arguing that there is no "indication that Congress knew of and intended to codify the Seventh Circuit's decisions." U.S. Br. 30. Those decisions, like early patent treatises such as Robinson, reflect the common law understanding of indirect infringement. "Absent contrary direction from Congress, [courts] begin [their] interpretation of statutory language with the general presumption that a statutory term

An unauthorized use of Akamai's patented method indisputably occurred in this case when Limelight and its customers together practiced all the claimed steps in the United States. The jury so found (JA236-237), and—despite Limelight's efforts to create a factbound dispute on the point (Br. 7 n.4)—that finding is amply supported by substantial evidence. Pet. App. 106a-108a; *supra* p. 10 n.1. Since Akamai's exclusive rights were invaded, its patent was infringed, and Limelight may be held liable under §271(b) so long as it "actively induce[d]" that "infringement." As the en banc Federal Circuit noted,

> It would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes further by actually performing some of the steps himself. The party who actually participates in performing the infringing method is, if anything, more culpable than one who does not perform any steps.

Pet. App. 10a.

B. Analogous Criminal And Tort Law Principles Likewise Hold Actors Liable For Inducing Harm, Irrespective Of The Inducee's Liability

Although Limelight urges this Court to disregard analogous criminal and tort law principles (Br. 32-33), this Court has recognized their relevance in interpreting §271(b). *See Global-Tech*, 131 S. Ct. at 2068-2071 (applying criminal law concept of "willful blindness"

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has its common-law meaning." *Scheidler* v. *National Org. for Women, Inc.*, 537 U.S. 393, 402 (2003).

under §271(b)); *supra* p. 24. Those background principles strongly support the en banc court's judgment.

The federal aiding and abetting statute provides that "[w]hoever ... aids, abets, [or] induces" "an offense against the United States" is "punishable as a principal." 18 U.S.C. §2(a). As Limelight concedes (Br. 35 n.16), the drafters of §271(b) would have been aware of §2, which was revised by the same Congress. Indeed, the House and Senate reports described §271(b) as a form of aiding and abetting liability. H.R. Rep. No. 82-1923, at 9 ("Paragraph (b) [of §271] recites in broad terms that one who aids and abets an infringement is likewise an infringer."); S. Rep. No. 82-1979, at 8 (same).

Contrary to Limelight's argument (Br. 33-34 & n.14), this Court has recognized that criminal aiding and abetting under both §2(a) and common law does *not* depend on any one person being primarily liable for an offense. In *Rosemond* v. *United States*, 134 S. Ct. 1240, 2014 U.S. LEXIS 1787, at *16 n.6 (2014), this Court described a scenario in which four people participate in a kidnapping by individually performing the elements of the offense so that "[n]one would have personally completed ... all elements of the offense." While no participant individually committed the kidnapping, "an offense against the United States" indisputably occurred, and "if [the participants] had the requisite intent[] *all would be liable* under §2" as aiders and abettors. *Id.* (emphasis added). The Court also quoted a leading treatise for the proposition that, at common law, "'[w]here several acts constitute[d] together one crime, if each [was] separately performed by a different individual[,] ... all [were] principals as to the whole.'" *Id.* at *14 (quoting 1 Bishop, *Commentaries on the Criminal Law* §650 (7th ed. 1882)).

Just as the kidnapping example in *Rosemond* demonstrated the requisite "offense," the combined actions of Limelight and its customers amount to "infringement." Accordingly, all participants with "the requisite intent" are liable as inducers under §271(b). This common sense application means that "[t]he division of labor between two (or more) confederates thus has no significance: A strategy of 'you take that element, I'll take this one' ... free[s] neither party from liability," because the offense is still committed, and both are culpable. *Rosemond*, 2014 U.S. LEXIS 1787, at *16.

Tort doctrines, which are likewise relevant here (*see supra* p. 24), are to the same effect. A defendant is liable for tortious conduct that he "orders or induces ... if he knows or should know of circumstances that would make the conduct tortious if it were his own." *Restatement (Second) of Torts* §877(a); *see also* U.S. Br. 9 (inducer is liable for aiding "conduct that ... would be a tort or offense if committed by the inducer"). Here, had Limelight performed the missing steps that it induced its customers to perform, it would have performed all the claim steps itself, thus rendering it liable for direct infringement.

Contrary to Limelight's argument that the "tortious" conduct being induced must itself give rise to liability (Br. 36), "acts which individually would be innocent may be tortious if they thus combine to cause damage." Keeton et al., *Prosser and Keeton on Torts* §52 (5th ed. 1984); *see also* Pet. App. 18a-19a. Indeed, interpreting similar language in 18 U.S.C. §2(b)—which states that a person who "willfully causes an act to be done which if directly performed by him or another would be an offense against the United States, is punishable as a principal"—courts have held that "one who

puts in motion or assists in the illegal enterprise or causes the commission of an indispensable element of the offense by an innocent agent or instrumentality, is guilty." *United States* v. *Rapoport*, 545 F.2d 802, 806 (2d Cir. 1976) (internal quotation marks omitted); *see also United States* v. *Tobon-Builes*, 706 F.2d 1092, 1099 (11th Cir. 1983) (Section 2(b) "impose[s] criminal liability on one who causes an intermediary to commit a criminal act, even though the intermediary ... has no criminal intent and hence is innocent"). When a defendant performs some of the patented steps itself and induces others to perform the rest, it is likewise liable for the combined conduct under §271(b). *See Restatement of Torts* §876 cmt. a (1939) ("[O]ne who accomplishes a particular consequence is as responsible for it when accomplished through directions to another as when accomplished by himself.").

C. This Case Is Not Resolved By Dicta In Cases Involving Product Claims And No Invasion Of The Patentee's Exclusive Rights

Contrary to Limelight's assertion (Br. 27-32), nothing in this Court's decisions in *Deepsouth*, *Global-Tech*, or *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336 (1961) ("*Aro I*"), undermines the en banc court's interpretation of §271(b). None of those cases addressed the issue here—namely, the attachment of inducement liability when the steps of a patented process are performed by more than one party. *See* U.S. Br. 21-22 (conceding *Aro I*, *Deepsouth*, and *Global-Tech* do not "address[] the specific question presented"). Limelight takes statements made in dicta out of their context and treats them like broad rules meant to govern all cases, rather than functions of the specific, distinguishable contexts in which they arose.

See Carnegie-Mellon Univ. v. *Cohill*, 484 U.S. 343, 355 (1988) ("The language ... that petitioners cite, viewed in isolation, is admittedly far-reaching, but it loses its controlling force when read against the circumstances of that case."); *Provident Tradesmens Bank & Trust Co.* v. *Patterson*, 390 U.S. 102, 119 n.16 (1968) ("reliance on formulas extracted from their contexts rather than on pragmatic analysis" is inappropriate where "none of the cases cited here or below presented a factual situation resembling this case").

In *Aro I* and *Deepsouth*, there was no invasion of the patent owner's exclusive rights at all. Repair of a product in which the patent owner's rights are already exhausted, as occurred in *Aro I*, has long been held not to be an invasion of the patentee's rights. 365 U.S. at 343; *Wilson* v. *Simpson*, 50 U.S. (9 How.) 109, 125-126 (1850). Similarly, in *Deepsouth*, the Court found no invasion of the patentee's statutory rights—which are territorially limited by §154(a)(1) and §271(a)—because the patented combination was never "made" in the United States. 406 U.S. at 527-528, 531.

Here, by contrast, the claimed invention is a process that *is* being used within the United States, thus invading Akamai's statutorily protected rights. The question whether Limelight can escape that liability by sharing the performance of the claimed steps with its content provider customers was not decided in *Aro I* or *Deepsouth*. The statement in *Aro I*, 365 U.S. at 341, repeated in *Deepsouth*, 406 U.S. at 526, that "there can be no contributory infringement in the absence of a direct infringement," simply means that the *acts* that invade the patentee's exclusive rights and constitute direct infringement must be performed, regardless whether by one or more parties.

Aro I, *Deepsouth*, and *Global-Tech* are also distinguishable because they involved product claims, which are necessarily infringed by the single party that makes, uses, sells, or imports the claimed product. In such cases, whenever there is infringement of the patentee's exclusive rights under §154(a)(1), there will also always be a single direct infringer liable under §271(a) because "the party that adds the final element to the combination 'makes' the infringing product and thus is liable for direct infringement even if others make portions of the product." Pet. App. 25a.

The product claim in *Aro I* was directed to a combination of components for a sealed convertible folding top, one component of which—the fabric—typically wore out more quickly than the other components. 365 U.S. at 337-338. As noted, the narrow question before this Court was whether car owners who had bought convertible tops from General Motors (which was licensed to make them) but repaired them with Aro's fabric were "making" the invention anew, thereby exposing Aro to liability for contributory infringement. "[T]he [*Aro I*] Court considered no other issue" but "that of repair versus reconstruction." *Aro II*, 377 U.S. at 480 n.1.

In setting the stage for its discussion, the Court made a general statement that "'if the purchaser and user could not be amerced as an infringer certainly one who sold to him ... cannot be amerced for contributing to a non-existent infringement.'" *Aro I*, 365 U.S. at 341. Limelight appears to believe (Br. 27-28) that this language suggests that contributory infringement requires, in *every* case, that there be *liability* under §271(a). That is more weight than *Aro I* can bear. To the extent any statement in *Aro I* appears to predicate contributory liability on the existence of *liability* for

direct infringement, it is fully explained by the context of that case, which turned on the "making" of a claimed *product* in the United States, for which there *necessarily* was liability under §271(a) for the single party that completed the claimed combination (in *Aro I*, the car owner).

The Court confronts a very different issue here, namely a claimed *process* that can be infringed through the collaboration of two parties in a way that, Limelight assumes (*but see supra* Part I), does not produce §271(a) liability for either of them. The Court should not take the language of *Aro I*, written in a very different context with different issues in mind, as addressing the issue Limelight presents here. *E.g.*, *Pacific Operators Offshore, LLP* v. *Valladolid*, 132 S. Ct. 680, 688 (2012) (refusing to rely upon an "ambiguous comment ... made without analysis in dicta" in a prior decision).

Deepsouth, which also involved a product claim, is even further afield. There, the Court did not confront a question of induced or contributory infringement, but rather the question whether a company that made all the parts of a claimed machine but shipped them for final assembly overseas could be liable for *direct infringement* under §271(a) for "making" the patented machine in the United States. *Deepsouth*, 406 U.S. at 527. *Deepsouth* thus does not speak to the question presented here, namely whether the performance of all the claimed steps in the United States qualifies as "infringement" that can serve as a predicate for inducement liability, or whether Limelight can avoid all liability by structuring its conduct in concert with content providers to ensure that no "single entity" performs all claim steps.

Global-Tech likewise cannot fairly be read to address the question presented here, much less support Limelight's answer. *Global-Tech*, like *Deepsouth* and *Aro I*, involved a product claim. The foreign defendants copied the patented fryer and sold copies to U.S. companies, who became *liable* for direct infringement when they imported the fryers into this country. *Global-Tech*, 131 S. Ct. at 2063-2064. And the defendants undoubtedly induced the infringement by selling the U.S. companies a product destined for the U.S. market that met all the claim limitations. This Court decided only whether inducement liability under §271(b) requires that the defendant "must know that the induced acts constitute patent infringement." *Id.* at 2063.

In that context, it made eminent sense for this Court to speak of a person "induc[ing] another to take some action" or "persuad[ing] another to engage in conduct that the inducer knows is infringement": that is what the defendants in *Global-Tech* did. 131 S. Ct. at 2065. The Court did not thereby rule that inducement liability can *never* arise if the infringement occurs through the combined actions of the inducer itself and an inducee. As in *Aro I* and *Deepsouth*, that issue simply could not have arisen with regard to the product claims at issue in *Global-Tech*, and it was certainly not implicated in the questions of *intent* that were before the Court. If anything, the statement in *Global-Tech* most relevant here is the recognition that "[d]irect infringement has long been understood to require no more than the unauthorized use of a patented invention"—a statement that fully supports Akamai's argument. 131 S. Ct. at 2065 n.2.

III. Limelight's And Its Amici's Policy Arguments Fail

Finally, Limelight and its amici adduce a variety of policy arguments that they believe support their desired outcome. *E.g.*, Pet. Br. 41-50. While some of these policy objectives are laudable, they are addressed by different statutory provisions, procedural rules, and judicial doctrines. The other issues Limelight and its amici raise are insubstantial and unsupported, and certainly do not justify the get-out-of-jail-free card that Limelight asks this Court to issue, under either §271(a) or (b). As the government concedes (Br. 9, 31), "sound patent policy" justifies holding Limelight liable.

1. Limelight's predictions of manufacturers facing "unpredictable liability" for the acts of "independent actors" (Br. 43) are baseless. As noted above (p. 27), joint liability under §271(a) for directing, controlling, or acting in concert does not extend to unwitting actors. Further, inducement liability under §271(b) reaches only those who *intentionally* seek to invade the patentee's exclusive rights. *See Global-Tech*, 131 S. Ct. at 2068; Pet. App. 7a n.1. An inducer must know not only of the relevant accused acts, but also that "the induced acts constitute patent infringement." *Global-Tech*, 131 S. Ct. at 2068. As in the copyright context, "[t]he inducement rule ... premises liability on purposeful, culpable expression and conduct, and thus does nothing to compromise legitimate commerce or discourage innovation having a lawful" purpose. *Grokster*, 545 U.S. at 937; *see also* Keeton et al. §8 (recognizing tort law's "definite tendency to impose greater responsibility upon a defendant whose conduct was intended to do harm, or was morally wrong").

2. Limelight next asserts (Br. 44) that the Federal Circuit's rule could impose liability on "consumers." First of all, Limelight's content provider customers are not "consumers" in the traditional sense; they are companies like Microsoft, DirecTV, and ABC Radio (JA139, 177-178) that have their own legal divisions and are well-versed in patent law and in protecting themselves from infringement claims through, for example, indemnification agreements.

In any event, nothing would impose inducement liability for "innocent" conduct or for the acts of "independent" parties. *Cf.* Robinson, 62 Am. U. L. Rev. at 108 ("[I]nnocent actors were rarely involved in the [joint infringement] cases that have been litigated."). Third parties would be liable under §271(b) only if they acted with the requisite intent and under §271(a) only in the circumstances defined by the common law.

Any assertion here that Limelight was "innocent," or that its content providers were "independent," is indefensible and was rejected by the jury's finding that Limelight performed most of the claimed steps and "directed or controlled" the content providers' performance of the remaining steps. Indeed, as the government notes, "[t]here is no obvious policy reason not to impose liability on parties" like Limelight who themselves perform some steps of a patented method and are, "if anything, *more culpable* than the typical active inducers." U.S. Br. 31-32 (emphasis added); *see also* Pet. App. 9a-10a.

Similarly fanciful are assertions that Limelight "learn[ed] from, improve[d] on, [or] invent[ed] around" Akamai's invention (Br. 42) or that Limelight is engaged in "productive activity" that should freely continue (*id.* 44). Attempting to create a legal loophole to

practice an existing invention in direct competition with the inventor without liability is not "design[ing] around a patent" (Microsoft Br. 10) and contributes nothing to the storehouse of knowledge.

3. Limelight's amici also invoke fears of "abusive" litigation by "patent trolls" bent on extracting settlements and outsized damages awards. *E.g.*, Cargill Br. 5-6, 11-16, 20-21; CTIA Br. 16-21; Clearing House Br. 21, 26-28; Google Br. 15-17; Newegg Br. 20-22. Akamai shares these concerns, as it is also a "leading business[] and innovator[] in information technology" (Google Br. 1) that has become a target for nonpracticing entities. But the fact that *some* patent lawsuits are frivolous is not a reason to eliminate the rights of actual innovators like Akamai against actual infringers like Limelight. Abuses of the system can and should be addressed by existing means, including early summary judgment; exclusion of unjustified damages theories, *ResQNet.com, Inc.* v. *Lansa, Inc.*, 594 F.3d 860, 868-873 (Fed. Cir. 2010); limitations on injunctive relief for nonpracticing entities, *eBay Inc.* v. *MercExchange, LLC*, 547 U.S. 388 (2006); and fee shifting, 35 U.S.C. §285.

Similarly, concerns over patents that do not sufficiently disclose or claim their invention or that "embody[] little if any technological innovation" (Pet. Br. 46-48) are amply addressed by vigilant enforcement of the requirements for patent eligibility, novelty, nonobviousness, definiteness, written description, and enablement. *See* 35 U.S.C. §§101, 102, 103, 112; *Alice Corp.* v. *CLS Bank Int'l*, No. 13-298 (to be argued Mar. 31, 2014); *Nautilus Inc.* v. *Biosig Instruments, Inc.*, No. 13-369 (to be argued Apr. 28, 2014); *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007). Here, the jury properly rejected Limelight's invalidity defenses, a result that is unchallenged on appeal.

4. Limelight's attempt to denigrate method patents as "add[ing] the least and impos[ing] the greatest costs" (Br. 47-49) is offensive and incorrect. Many historic inventions other than Akamai's were not only patented as methods, but as methods that had to be performed by *multiple* actors together.

For example, the Patent and Trademark Office recently inducted into its Inventors Hall of Fame the inventors of U.S. Patent No. 4,200,770 (issued Apr. 29, 1980), known as the Diffie-Hellman-Merkle patent, which disclosed a method of encrypting information that is now used in virtually every online credit card transaction. *See* National Inventors Hall of Fame, *National Inventors Hall of Fame Honors 2011 Inductees* (May 4, 2011), *available at* http://www.prnewswire.com/news-releases/national-inventors-hall-of-fame-honors-2011-inductees-121240094.html; *see also* Blackman, *Stanford Encryption Pioneer Who Risked Career Becomes Hamming Medalist* (Feb. 10, 2010), *available at* http://news.stanford.edu/news/2010/february8/hellman-encryption-medal-021010.html. The invention of the Diffie-Hellman-Merkle patent has been described as the "third major milestone in the evolution of [information] security" after the mid-twentieth century development of modern cryptography and the establishment of the U.S. National Security Agency. Sabett, *Security Online* §27:3, *in* 2 *Internet Law and Practice* (2013). Significantly, the patent relies on collaboration between a transmitter of information and a receiver. *See* U.S. Patent No. 4,200,770 claim 4 (claim for "generating a secure cipher key between a transmitter and receiver" requires, *inter alia*, "transmitting said transformed first signal from the transmitter to the receiver [and] transmitting transformed second signal from the

receiver to the transmitter"). Limelight's argument would thus render the patent effectively unenforceable.

Similarly, a key innovation in the rise of FM radio—"a new technique ... [that] made possible a substantial improvement in the faithfulness of reproduction of sound ... and a marked reduction in noise and interference," *Armstrong* v. *Emerson Radio & Phonograph Corp.*, 179 F. Supp. 95, 96 (S.D.N.Y. 1959)—also required separate entities to perform the receiving and transmitting functions described in the patent's method claims. *See* U.S. Patent No. 1,941,069 (issued Dec. 26, 1933). The invention was soon "found in every FM broadcast receiver, in every television receiver, and [had] wide application to military, police, and other mobile services." *Armstrong*, 179 F. Supp. at 97. The result of the inventor's "great sacrifice, energy and perseverance, including the expenditure of substantial amounts of his own funds" "was to extend the practical range of radio communication." *Id.* This patent would also be essentially valueless under Limelight's rule.

5. Limelight's assertion that a skilled claim drafter could simply reformulate such claims to be performed by a single actor (Br. 45; *see also* EFF Br. 5-7; Google Br. 7, 21-25) is no answer. As the government concedes (Br. 33), "[s]ome inventions may not be susceptible to framing from the perspective of a single actor." Nor should inventors of cooperative methods be required to twist their claims through clever drafting to the point that the claims mask the true invention or claim it only obliquely.

"[I]n fields ranging from health diagnostics, medicine, financial services, and oil drilling, to the complex networks of today's information technology markets ... many innovative patented methods, by their very na-

ture, involve two or more actors." ABA Br. 5. For example, a primary goal of Akamai's invention was to permit highly desirable *cooperation* between content providers and content delivery networks. JA68. Unless this Court is prepared to say that such inventions are categorically ineligible for patent protection—a conclusion that would be wholly unjustified—the Court should not require that they be claimed in anything other than a straightforward manner. *See* Robinson, 62 Am. U. L. Rev. at 105-106 ("[D]rafting so-called better claims directed to a single infringer is not a cure-all. Some patents are by their nature interactive, and in order to properly claim the invention, the claims must be directed to or mention more than a single actor.").

Moreover, even where claims could be drafted to involve a single actor, the loophole Limelight advocates would allow determined infringers to avoid liability simply by dividing up the claim steps to take advantage of a rigid "single entity" rule. *See Golden Hour*, 614 F.3d at 1371; ABA Br. 10a ("Processes that *can be* divided easily among multiple actors *will be*, especially if parties know that dividing the steps among multiple actors will immunize them from any claims of patent infringement."). The stakes in this case thus extend well beyond questions of claim drafting or multiple-actor inventions; Limelight's theory threatens the enforceability of *all* patented methods for which the steps can be divided.

* * *

The Court should make no mistake: Akamai's invention transformed the Internet, the patent's scope and validity are now beyond dispute, and the combined conduct of Limelight and its customers "invades," "encroaches," and "trespasses" on Akamai's patent rights

by performing, within the United States, the innovative process that Dr. Leighton and Mr. Lewin invented through genius and hard work. The only question is whether Limelight can get away with profiting from Akamai's invention simply by performing some steps itself and instructing other parties to perform the rest. Akamai respectfully submits that the answer is clearly no.

CONCLUSION

The jury verdict of direct infringement should be reinstated. Alternatively, the judgment of the court of appeals should be affirmed.

Respectfully submitted.

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REPLY BRIEF

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LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

**On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit**

REPLY BRIEF FOR PETITIONER

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CORPORATE DISCLOSURE STATEMENT

Petitioner's Rule 29.6 Statement was set forth at page iii of its opening brief; petitioner amends that statement to report that, as of March 31, 2014, Goldman, Sachs & Co. owned 30.75% of the shares of Limelight, and that ownership interest has not materially changed.

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This Court granted certiorari to decide whether the Federal Circuit misconstrued the Patent Act by holding that a patentee may sue for indirect infringement under § 271(b) when no party has directly infringed under § 271(a). Akamai (like the Federal Circuit) relies on a convoluted theory under which the term "infringement" in § 271(b) refers not just to conduct that "infringes" under § 271(a), but also to a hitherto unknown category of non-actionable direct infringement whose only apparent purpose is to support secondary liability under § 271(b). Not only is this an unnatural reading of the text, but it is also contrary to § 281, which provides that, when there is "infringement," the infringer (or infringers) can be sued. There is no such thing as conduct that constitutes direct "infringement" but that is not actionable; the absence of any direct infringer in this case highlights why the decision below is irreconcilable with the statute.

Akamai seeks to deflect attention from the question presented by challenging the court of appeals' rejection of its direct-infringement claims under § 271(a), but that issue is not properly before this Court. The district court overturned a jury verdict on this issue, and the Federal Circuit affirmed that determination: because its cross-petition has not been granted, Akamai may not seek "to alter the judgment below" by seeking reversal on that point. *Northwest Airlines, Inc. v. County of Kent*, 510 U.S. 355, 364 (1994). In any event, Akamai's effort to extend § 271(a) to reach conduct by multiple actors – none of whom practices the patented method – based on an undefined "fact-intensive standard," Br. 35, is inconsistent with the bedrock principle that liability for direct infringement is strict, with settled princi-

ples of tort law, and with Patent Act provisions governing indirect liability. Liability for strict-liability torts based on another's conduct is limited to vicarious liability – that is, situations in which the defendant has the legal right to direct or control the third party's conduct. By contrast, Akamai cites conduct-attribution rules derived from the law governing intentional or negligent torts; they cannot be applied to § 271(a) without disregarding the strict-liability nature of direct infringement and radically broadening direct-infringement liability.

Akamai asserts that Limelight is not "innocent," its conduct "more culpable" than that of typical inducers, Br. 51 (emphasis omitted), but Akamai's rhetoric is inconsistent not only with its doctrinal arguments but also with the facts. Akamai neither claimed nor proved willful infringement or intentional inducement at trial. Quite the opposite: it relied solely on a claim of strict liability under § 271(a), asking for and receiving a jury instruction that "infringement . . . can occur even if the person who is said to infringe doesn't know that he or she is infringing, doesn't even know about the patent."[1] Akamai defends its proposed rule on the grounds of an intent that it never established at trial.[2]

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[1] A818 (19:13-16). Akamai also made no attempt to prove willful infringement.

[2] Akamai relied exclusively on § 271(a) not because any prior Federal Circuit case compelled it, *cf.* Resp. Br. 15, but because, if Akamai had claimed bad intent, evidence concerning the invalidity of the '703 patent would have been placed before the jury. *See* Dist. Ct. Dkt. #238. The jury would have learned that what Akamai describes as the core of its invention, *see* Resp. Br. 6, was invented by someone else. *See Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1194-95 (Fed. Cir. 2003).

The country's most innovative companies oppose the Federal Circuit's expansion of "divided infringement" liability because of its corrosive effects on innovation and investment; 10 of 11 Federal Circuit judges rejected Akamai's even more radical proposal to expand direct-infringement liability. A new "divided infringement" tort is not required to protect incentives to innovate; moreover, method claims can and should be drafted from the point of view of a single actor to provide clear notice to the public. In any event, any determination that liability should be imposed for conduct falling outside the statutory categories established in § 271 is for Congress.

ARGUMENT

I. THE FEDERAL CIRCUIT'S DECISION SHOULD BE REVERSED

Section 271(b) restricts liability to one who "actively induces infringement of a patent." The term "infringement" is naturally read to mean conduct (1) that violates a patentee's exclusive rights under § 154(a); (2) that fits within the definition provided by § 271(a), or a specific statutory extension; and (3) for which the patentee has a "remedy" under § 281. Pet. Br. 20-26. Unless there is someone who can "'be amerced as an infringer,'" no one else can "'be amerced for contributing to'" – or, here, inducing – a "'non-existent infringement.'" *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) ("*Aro I*") (quoting *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 674 (1944) (Roberts, J., dissenting)). The court below erred in holding otherwise.

Akamai concedes (at 37) that infringement "mean[s] an encroachment upon, invasion of, or violation of a right"; the exclusive right to use under § 154(a). And

it concedes (at 38) that "[s]ection 271(a) mirrors this grant of rights" by rendering unauthorized use an infringement. But Akamai nevertheless maintains that a patentee's exclusive-use rights under § 154(a) can somehow be infringed even though no one can be held liable for unauthorized use under § 271(a). Infringement, Akamai says (at 37), means "harm inflicted upon a rights-holder, irrespective of how or by whom and whether any one person is liable." But the assertion is inconsistent with the Patent Act, this Court's cases, and background legal principles, none of which recognizes a category of non-actionable invasions of an exclusive property right.

A. The Statute's Text and Structure Resolve the Question Presented

The Patent Act does not recognize any category of infringement that is non-actionable when committed directly but becomes actionable when induced. The rights conveyed by § 154(a) are "right[s] *to exclude others* from making, using, offering for sale, or selling the invention." 35 U.S.C. § 154(a)(1) (emphasis added). Conduct from which the patentee has no "right to exclude others," *id.*, does not violate the patentee's rights under § 154(a). Limelight has shown (at 22-23), and Akamai does not dispute, that § 154(a) gives Akamai no right to exclude anyone from using some but not all the steps of Akamai's patented method. It follows that one who uses some but not all the steps of Akamai's method is not committing an act of "infringement" and is not liable under § 271(a); inducement of such conduct gives rise to no liability under § 271(b).[3] That is confirmed by § 281, which

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[3] The dictionaries Akamai cites (at 37) tie "infringement" to the scope of the "exclusive rights of a patent," *Black's Law Dictionary* 851 (9th ed. 2009), or to an invasion of "the rights

provides that a "patentee shall have remedy by civil action for infringement." If those words are to receive their natural meaning, "infringement" cannot include acts for which the patentee has no remedy.[4]

Akamai argues (at 39) that § 282 points to a different result by mentioning both "[n]oninfringement" and "absence of liability for infringement" as defenses to an action for infringement, which (it claims) implies that in some cases there must be infringement but no liability. But § 271 itself distinguishes between conduct that "infringes" (§ 271(a)) and conduct that gives rise to "liab[ility] as an infringer" (*e.g.*, § 271(b)). Section 282(a)(1) logically refers to both: an accused indirect infringer could plead absence of liability for another's infringement, even if the patent was directly infringed by another.

B. This Court's Decisions Recognize That There Can Be No Indirect Infringement Without Direct Infringement Under § 271(a)

Both *Aro I* and *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972), hold that "if there is no *direct* infringement of a patent there can be no

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secured by patents," *Black's Law Dictionary* 961 (3d ed. 1933). They do not support a definition of "infringement" that includes conduct the patentee has no right to prevent.

[4] Akamai argues (at 40 n.10), based on a snippet of legislative history, that § 281 was "intended as a preamble." But a preamble precedes the enacting clause and therefore "is no part of the act." *Yazoo & M.V.R.R. Co. v. Thomas*, 132 U.S. 174, 188 (1889); *see* 1A Norman J. Singer, *Statutes and Statutory Construction* § 20:3 (7th ed. 2009). Section 281 is part of the Patent Act and implicates the "cardinal principle of statutory construction that [courts] must '"give effect, if possible, to every clause and word of a statute."'" *Williams v. Taylor*, 529 U.S. 362, 404 (2000) (citations omitted).

[indirect] infringement." *Aro I*, 365 U.S. at 341; *see Deepsouth*, 406 U.S. at 526; *see also* Pet. Br. 27-32. Akamai calls this Court's statements "dicta," Br. 45, but the link between direct and indirect infringement underlay the results in both cases. *See* Pet. Br. 27-28. Moreover, the Court's reasoning reflects the understanding that direct infringement and indirect infringement are statutorily distinct categories and that the existence of the latter depends on the existence of the former.

Akamai also attempts to distinguish *Aro I* and *Deepsouth* on their facts, arguing (at 46) that "direct infringement" occurs so long as "the *acts* that invade the patentee's exclusive rights" are "performed, regardless [of] whether by one or more parties." Insofar as Akamai believes that direct infringement of method claims can occur even if no one performs all the necessary steps, that view is incorrect. *See infra* Part II.B. And, if Akamai means to say that non-actionable conduct can invade a patentee's rights, that notion is a contradiction in terms: where a party does not perform *all* the steps of a method claim, it is not performing any "act[] that invade[s] the patentee's exclusive rights."[5]

Global-Tech Appliances, Inc. v. SEB S.A., 131 S. Ct. 2060 (2011), addresses intent rather than conduct, but it framed the requirement "that induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement" as

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[5] If Akamai were correct that there can be common-law "infringement" outside the bounds of § 271(a), infringement could include the *extraterritorial* use of a patented device, because § 271(b) – unlike § 271(a) – contains no territorial limitations. *See* Ten IP Law Professors Br. 9-12. *Deepsouth* rejected that result.

part of its "hold[ing]." *Id.* at 2068. The reasoning supporting that holding recognizes that "'contributory infringement'" – in the pre-Patent-Act, common-law sense – was tied to "the aiding and abetting of direct infringement *by another party*." *Id.* at 2067 (emphasis added). Here, as elsewhere, this Court treated it as obvious that "direct infringement" means conduct by which someone infringes a patent.

C. Criminal- and Tort-Law Analogies Do Not Support the Decision Below

As Limelight showed (at 33-37), and as the enforcer of the criminal laws agrees, *see* U.S. Br. 25-27, criminal- and tort-law analogies offer no support for Akamai's position. Although Akamai relies on *Rosemond v. United States*, 134 S. Ct. 1240 (2014), in that case, unlike here, there was an underlying offense for the defendant to aid and abet. Indeed, the question before the Court in *Rosemond* was whether the putative aider and abettor needed to have the requisite state of mind with respect to all elements of the underlying offense, a question that assumes the existence of the offense. Here, Akamai contends that it can impose liability on Limelight for assisting a violation that did not take place at all.[6] Akamai focuses (at 44) on *Rosemond*'s statement that "[t]he division of labor between two (or more) confederates thus has no significance: A strategy of 'you take that element, I'll take this one' would free neither party from liability." 134 S. Ct. at 1247. That statement,

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[6] In relying (at 44-45) on cases recognizing criminal liability under 18 U.S.C. § 2(b) where a guilty principal makes use of an innocent agent, Akamai ignores the textual differences between § 2(b) and § 271(b) – which foreclose any contention that Congress intended to impose such innocent-agent liability through § 271(b). *See* Pet. Br. 35-36 & nn.16-17.

however, presupposes that the defendants are "confederates" who have agreed to carry out a wrongful act. Akamai's argument thus presumes that the acts give rise to liability under § 271(a). But the Federal Circuit extended indirect liability under § 271(b) to a case where no one could be liable under § 271(a). *Rosemond* offers no support for such an extension.[7]

D. Pre-1952 Cases Do Not Support the Decision Below

Akamai's reliance (at 40-41) on "the common law understanding of indirect infringement" adds nothing to the opinion below. Like the Federal Circuit majority, Akamai ignores this Court's cases giving statutory text priority over sparse and uncertain pre-statutory cases, *see* Pet. Br. 39-40 (citing, *e.g.*, *United States v. Ron Pair Enters., Inc.*, 489 U.S. 235 (1989)); identifies (at 41) only two cases from one Circuit to show a purportedly settled common-law understanding; and fails to address the dissents by Justices Roberts and Frankfurter in *Mercoid*, which *Aro I* approved and which are inconsistent with Akamai's rendition of pre-Patent-Act law, *see* Pet. Br. 40.

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[7] Akamai cites (at 44) § 877 of the Restatement (Second) of Torts (1979), but § 877 is addressed to liability for "the *tortious* conduct of another," not to a situation where the induced conduct would not, standing alone, be tortious. *See* Pet. Br. 36-37; *see also infra* p.16. Akamai also quotes Prosser and Keeton discussing the situation where "individually . . . innocent [acts] . . . combine to cause [tortious] damage," W. Page Keeton et al., *Prosser and Keeton on the Law of Torts* § 52, at 354 (5th ed. 1984), but the quote addresses circumstances – such as multiple polluters fouling a stream – where others' actions provide the context in which to apply "the standard of reasonable conduct." *Id.*; *see infra* p.17.

II. AKAMAI'S DIRECT-INFRINGEMENT ARGUMENTS ARE NOT PROPERLY BEFORE THIS COURT AND LACK MERIT

A. Because Akamai's Cross-Petition Has Not Been Granted, Akamai's Claims of Direct Infringement Are Not Properly Before This Court

The scope of liability for direct infringement under § 271(a) is not properly before the Court because Akamai's conditional cross-petition, which seeks to present this issue, has not been granted. Before the district court, Akamai disclaimed indirect infringement and pressed only a claim of strict liability under § 271(a). After a jury verdict in Akamai's favor, the district court granted Limelight's motion for judgment. App. 194a. The panel, App. 116a-117a, and then the nearly unanimous *en banc* Federal Circuit, App. 30a, 98a, affirmed that aspect of the district court's judgment, remanding to the district court solely "for further proceedings on the theory of induced infringement," App. 30a.

Akamai seeks reversal of the portion of the judgment against it – that is, to have "[t]he jury verdict of direct infringement . . . reinstated." Br. 56. But "[a] cross-petition is required" before a respondent may advance arguments to this Court that would "alter the judgment below." *Northwest Airlines*, 510 U.S. at 364-65 (declining to reach a question that would allow the respondent to prevail on an "issue on which it was a judgment *loser*" in the court of appeals); *see, e.g.*, *Genesis Healthcare Corp. v. Symczyk*, 133 S. Ct. 1523, 1529 (2013); *Morley Constr. Co. v. Maryland Cas. Co.*, 300 U.S. 185, 191 (1937) (Cardozo, J.); *see also* Pet. 20 (No. 12-960) (arguing that granting the cross-petition "would *allow* the Court to address

[Akamai's] predicate assertion . . . [of] direct infringement under § 271(a)") (emphasis added). Akamai's request that this Court "reinstate[]" the jury verdict runs afoul of that rule – and of Rule 14.1(a), which limits this Court's review to "questions set out in the petition, or fairly included therein."[8]

Akamai's argument that the § 271(a) question is "'a predicate to an intelligent resolution of the question presented,'" Br. 19 (quoting *Ohio v. Robinette*, 519 U.S. 33, 38 (1996)) – also pressed in support of its cross-petition, Pet. 20 (No. 12-960) – is incorrect. First, such an argument has never provided justification for altering a judgment in favor of a respondent when no cross-petition had been granted: no case Akamai cites (at 19-21) involved a respondent asking for more relief than an affirmance. Second, the premise is wrong: this Court can review the *en banc* court's ruling on the scope of § 271(b) on its own terms, without addressing the court's construction of § 271(a). *See* Opp. Cross-Pet. 8 (No. 12-960); U.S. Cert. Br. 22 n.9. Third, this Court frequently limits its review to cert-worthy legal issues, accepting but not deciding lower courts' resolution of predicate questions; that practice conserves the Court's resources. *See* Opp. Cross-Pet. 8-9 (No. 12-960); *see also Missouri v. Jenkins*, 495 U.S. 33, 53 (1990); *Izumi Seimitsu Kogyo Kabushiki Kaisha v. U.S. Philips Corp.*, 510 U.S. 27, 34 (1993) (per curiam) (stressing that "[f]aithful application" of Rule 14.1(a) "inform[s] those

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[8] Reinstatement of the jury verdict would not be available even if Akamai's cross-petition were granted. Among other things, the Federal Circuit expressly did not address Limelight's "alternative ground for affirmance" based on Akamai's failure to present "evidence that Limelight or its customers actually performed the tagging limitation as properly construed." App. 117a.

who seek review here that we continue to strongly 'disapprove the practice of smuggling additional questions into a case after we grant certiorari'") (citation omitted).

Limelight, having respected the scope of the Court's grant of certiorari, could be prejudiced if Akamai were permitted to present its § 271(a) arguments. The United States and most *amici* supporting reversal have likewise addressed the question presented without defending the lower court's interpretation of § 271(a). *Cf.* U.S. Cert. Br. 21-23 (noting that the Federal Circuit's approach to "joint infringement" is "sound"). Akamai's proposed expansion of § 271(a) would work at least as radical – and ill-advised – a change in the law as the Federal Circuit's expansion of § 271(b). This Court should not contemplate that possibility without comprehensive presentation from the parties, the government, and interested *amici*.

B. Expanding Liability for Direct Infringement Under § 271(a) Would Conflict With the Statutory Scheme

Congress codified the provisions governing liability for infringement in § 271 against a long-settled understanding that the unauthorized making, using, or selling of an invention – direct infringement – gives rise to strict liability. Rules governing attribution of conduct for purposes of liability under § 271(a) are therefore those that apply to strict-liability torts – that is, vicarious liability based on the legal right to control a third party's actions. *See* App. 92a-96a (Linn, J., dissenting) (discussing application of "traditional principles of vicarious liability" to claims under § 271(a)). Akamai's reliance on conduct-attribution rules derived from the law governing

intentional or negligence torts ignores that basic principle. The conclusion that Congress did not intend to authorize common-law expansion beyond traditional vicarious-liability rules is confirmed by the codification of distinct bases for *indirect* liability in § 271(b) and (c) – which require proof of culpable intent.

1. A defendant directly infringes if, without authority, it "uses . . . any patented invention[] within the United States." 35 U.S.C. § 271(a). A claim of direct infringement does not require proof of intent or knowledge: liability is strict. *See Global-Tech*, 131 S. Ct. at 2065 n.2; *Florida Prepaid Postsecondary Educ. Expense Bd. v. College Sav. Bank*, 527 U.S. 627, 645 (1999). That understanding has deep roots: the principle was present in English law,[9] and the Patent Act of 1790 imposed liability for infringement without fault. *See* Patent Act of 1790, ch. 7, § 4, 1 Stat. 109, 111. Early American cases repeatedly reaffirmed the principle,[10] and it has remained a constant, both before and after the current codification in 1952.[11] Akamai itself pursued (exclusively) a strict-liability claim, obtaining a jury instruction that

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[9] See Lord Mansfield's charge to the jury in *Liardet v. Johnson* (K.B. 1778), as quoted in E. Wyndham Hulme, *On the History of Patent Law in the Seventeenth and Eighteenth Centuries*, 18 L.Q.R. 280, 285 (1902).

[10] *See Matthews v. Skates*, 16 F. Cas. 1133, 1135 (C.C.S.D. Ala. 1860); *Parker v. Hulme*, 18 F. Cas. 1138, 1143 (C.C.E.D. Pa. 1849).

[11] *See, e.g., Blair v. Westinghouse Elec. Corp.*, 291 F. Supp. 664, 670 (D.D.C. 1968); *Thurber Corp. v. Fairchild Motor Corp.*, 269 F.2d 841, 849 (5th Cir. 1959); *Toledo Plate & Window Glass Co. v. Kawneer Mfg. Co.*, 237 F. 364, 369 (6th Cir. 1916); *Thompson v. N.T. Bushnell Co.*, 96 F. 238, 243 (2d Cir. 1899).

direct infringement does not depend on the infringer's knowledge of the patent or intent.[12]

Congress's codification of a strict-liability tort in § 271(a) indicates that it "intend[ed]" for "ordinary tort-related vicarious liability rules" to apply. *Meyer v. Holley*, 537 U.S. 280, 285 (2003); *see also eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391-92 (2006). Unless a defendant has performed each step of the patented method, it has not used the invention, and it has not directly infringed. *See* Pet. Br. 22-23; Resp. Br. 38. Accordingly, the claim that multiple parties together carried out all steps of a patented method but that none carried out all of them fails to allege direct infringement *so long as* there is no basis for attributing the conduct of one party to the others.

Tort law draws a sharp distinction between attribution of conduct based on vicarious liability and doctrines that extend tort liability for another's conduct based on fault. "Pure vicarious liability" is

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[12] The evidence at trial was inconsistent with any claim of bad intent. *First*, because Limelight does not use the sole technique for "tagging" that is described in Akamai's patent (an alternative ground for affirmance that the court of appeals did not need to reach, *see* App. 117a) and because its content delivery network ("CDN") architecture is fundamentally different from the architecture described in the patent (for example, it includes no "intelligent DNS," but relies on ordinary Internet routing, *see* Pet. Br. 4-5), Limelight is no copyist. That is confirmed by the fact that Akamai attempted to acquire Limelight and sued (without warning) only *after* Limelight insisted on remaining independent. *Id.* at 6. *Second*, when a particular customer uses Limelight's CDN, Limelight may have no idea whether the customer is redirecting requests for any embedded object, because much of the content that Limelight delivers – games, videos, music – is not displayed within a web page. Akamai's patent applies only to delivery of embedded objects. *See* JA64 (Abstract), 77 (relevant claims). *See also supra* n.2.

"based on the actions of the other party regardless of any allegation of culpability on the party held vicariously liable." *Laperriere v. Venta Ins. Group, Inc.*, 526 F.3d 715, 722 (11th Cir. 2008) (per curiam).[13] Such pure vicarious liability does not arise *except* in circumstances where the defendant has the legal right to direct or control the conduct of the third party. *See Meyer*, 537 U.S. at 286 ("[t]he Restatement [(Second) of Agency] § 1 specifies that the relevant principal/agency relationship demands . . . [*inter alia*] control (or the right to direct or control)"); *Maruho*, 13 F.3d at 11 ("[t]he theories of vicarious liability . . . all require [plaintiff] to show that [defendant] had the legal right to control" the tortious conduct); *cf. Janus Capital Group, Inc. v. First Derivative Traders*, 131 S. Ct. 2296, 2302 (2011) ("Without control, a person or entity can merely suggest what to say, not 'make' a statement in its own right.").[14] Only in such circumstances is it proper to treat such conduct as that of the defendant.

When the conditions for vicarious liability are met, multiple persons *can*, together, directly infringe

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[13] *See also Gleason v. Seaboard Air Line Ry. Co.*, 278 U.S. 349, 356 (1929); *Rio Mar Assocs., LP v. UHS of Puerto Rico, Inc.*, 522 F.3d 159, 165 (1st Cir. 2008) (distinguishing "vicarious liability" from "joint tortfeasor liability"); *Aguirre v. Turner Constr. Co.*, 501 F.3d 825, 828-29 (7th Cir. 2007) (same); *AT&T Co. v. Winback & Conserve Program, Inc.*, 42 F.3d 1421, 1431 (3d Cir. 1994); *Maruho Co. v. Miles, Inc.*, 13 F.3d 6, 11 (1st Cir. 1993) (Breyer, C.J.) (discussing potential bases for vicarious liability where defendant is "without fault"); *Hunnicutt v. Wright*, 986 F.2d 119, 123 (5th Cir. 1993).

[14] *See also Depositors Ins. Co. v. Wal-Mart Stores, Inc.*, 506 F.3d 1092, 1097 (8th Cir. 2007); *Clark v. Capital Credit & Collection Servs., Inc.*, 460 F.3d 1162, 1173 (9th Cir. 2006); Restatement (Third) of Agency § 1.01 (2006); *see also id.* § 7.04.

a patent. *See* U.S. Cert. Br. 21.[15] Legal relationships giving rise to vicarious liability without fault – agency, partnership, joint venture[16] – are settled and relatively predictable. *See also* IBM Br. 28 (urging Court to limit "joint direct-infringement liability" to "established, concrete, legally significant relationships," such as partnership and joint venture "properly and rigorously defined," to avoid "unpredictable liability"). Limelight, however, has no legal ability to control content providers' actions through any legally significant relationship or contractual obligation. Accordingly, as the *en banc* majority, the four dissenters, the panel, and the district court all determined, Akamai failed to establish vicarious liability.

2. Akamai relies exclusively on tort doctrines that impose liability for the conduct of others based on the defendant's fault and that are therefore inapplicable to claims of direct infringement. Those doctrines do not and should not apply to claims of strict liability for direct infringement.

First, § 212 of the Restatement of Agency (1933) does not support attribution of another's conduct without fault where a principal without tortious intent encourages another to engage in conduct that is innocent on its own. That section summarizes a

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[15] Akamai gets no help from the statute's use of the word "whoever." No one disagrees that the term can refer to multiple persons *if* they infringe.

[16] Because co-venturers are vicariously liable for each others' conduct, *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*, 614 F.3d 1367, 1371 (Fed. Cir. 2010), may have been decided incorrectly under the Federal Circuit's existing standard, as the dissent below (which included the author of the *Golden Hour* opinion) acknowledged. App. 95a (Linn, J., dissenting); *cf.* Resp. Br. 55.

principle of tort liability involving wrongful conduct of the principal, making clear that fault is *necessary* for secondary liability. *See id.*, cmt. c, illus. 6 (no liability for principal if agent knows of circumstances rendering conduct tortious but principal does not). Section 877(a) of the Restatement (Second) of Torts likewise applies only in cases of "tortious conduct of another" and where the defendant "orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own."

The basis for imposing indirect liability in such cases is "know[ledge of] the *wrongful nature* of the primary actor's conduct." *Pittman v. Grayson*, 149 F.3d 111, 123 (2d Cir. 1998) (emphasis added); *see also Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 854 (1982) (liability for inducement to commit trademark infringement requires that defendant "know[] or ha[ve] reason to know" of infringement). Carrying out only part of a patented method is not wrongful; accordingly, knowing that another is carrying out only part of a patented method is not culpable knowledge. Furthermore, liability for direct infringement does not turn on culpable knowledge, and, as noted, Akamai at trial disclaimed any need to prove such knowledge.

Second, "acting in concert" does not give rise to liability without fault. Akamai quotes § 876(a) of the Restatement (Second) of Torts, but that provision does not apply "when the conduct of either the actor or the other is free from intent to do harm or negligence but involves strict liability" – as Akamai concedes is the case here. *See* Resp. Br. 27 n.4. Concerted-action (or co-conspirator) liability requires both (1) the commission of a tortious act by the

primary tortfeasor and (2) knowledge of the wrongful nature of the primary actor's conduct. *See, e.g.*, *Beck v. Prupis*, 529 U.S. 494, 501 (2000); *In re Brooklyn Navy Yard Asbestos Litig.*, 971 F.2d 831, 841 (2d Cir. 1992) ("[C]oncert of action requires more than a supply relationship. It requires jointly undertaken tortious conduct."). Guilty knowledge is not a basis for imposing otherwise non-existent direct-infringement liability; moreover, Akamai proved no such thing here.

Third, Akamai gets no mileage from cases involving liability for a defendant that violates a duty of care – for example, by discharging pollutants – in circumstances where, if others had not acted similarly, its actions would not have caused harm. Those cases reflect the common-sense proposition that, if an actor is required to exercise care, she must do so in light of the factual context. *See* Resp. Br. 27. That principle has no application to a strict-liability claim under § 271(a).

3. Akamai's proposed construction of § 271(a) is also impossible to square with the limitations on *indirect* infringement imposed by Congress under § 271(b) and (c). If Akamai were correct, then a defendant who encouraged another to carry out *all* the steps of a method – not just some of the steps – would be liable without fault under § 271(a). *See* Resp. Br. 27 n.4. Akamai's reading would thus swallow up § 271(b) and render pointless the culpable-knowledge requirement that this Court recognized in *Global-Tech*.[17]

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[17] In addition, § 271(c) imposes no liability when a defendant supplies a component of an invention that has "substantial non-infringing use." Limelight's service indisputably has uses that do not implicate Akamai's embedded-object-only patent. *See*

Akamai argues that the Patent Act, like the Copyright Act, leaves "'lines between direct infringement, contributory infringement and vicarious liability [that] are not clearly drawn.'" Br. 21 (quoting *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930 n.9 (2005)). But the lines between different types of liability under the Copyright Act are judge-made. *See Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 434-35 (1984). Section 271 of the Patent Act draws the clear lines that Akamai claims are lacking. *See Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 173 (1994) ("[w]ith respect [to] . . . the scope of conduct prohibited by [a statute], the text of the statute controls").

4. Akamai's reliance on pre-1952 decisions involving indirect liability does not help it. *Thomson-Houston Electric Co. v. Ohio Brass Co.*, 80 F. 712 (6th Cir. 1897), rejecting defendant's argument that this Court had "do[ne] away altogether with the doctrine of contributory infringement," *id.* at 721, explains why liability extends beyond direct infringers (now covered by § 271(a)) to contributory infringers (now covered by § 271(b) and (c)). *New Jersey Patent Co. v. Schaeffer*, 159 F. 171 (C.C.E.D. Pa. 1908), *aff'd*, 178 F. 276 (3d Cir. 1909), and *Wallace v. Holmes*, 29 F. Cas. 74 (C.C.D. Conn. 1871), were likewise about indirect infringement. *See* Janice M. Mueller, *Patent Law* 446 n.188 (3d ed. 2009). The Robinson and Walker treatises similarly focus on indirect infringement.

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supra n.12. Akamai's theory would allow plaintiffs to circumvent limitations on liability under that provision as well. *See* Altera Br. 13-14.

The other pre-1952 cases reflect vicarious liability. *See York & Maryland Line R.R. Co. v. Winans*, 58 U.S. (17 How.) 30, 38-40 (1854) (joint liability among companies that shared costs and profits of a venture for undivided infringing use); *Jackson v. Nagel*, 47 F. 703, 704 (C.C.N.D. Cal. 1891) (defendant and sub-contractor jointly liable for making infringing article). None of Akamai's cases combined the conduct of two independent actors – neither of whom practices all the elements of an invention – to establish direct infringement.

III. EXPANDING "DIVIDED INFRINGEMENT" LIABILITY WOULD ENCOURAGE BURDENSOME LITIGATION WITHOUT PROMOTING INNOVATION

Compromising existing limits on liability under § 271 to facilitate claims of "divided infringement" would foster investment-hindering litigation without adding incentives to innovation. Concerns about unpredictable litigation have led leading companies and trade associations from financial services, food and agriculture, consumer electronics, software, social media, electronic equipment, wireless communications, and Internet retailing to urge this Court to reverse. Yet *amici* also depend on patents to protect their investments in innovation – as does Limelight, which owns 90 patents and has many more pending. Neither *amici* nor Limelight want to create a "loophole." Rejecting Akamai's claims would not do so.

A. Expansion of Divided Infringement Liability Promotes Unpredictable Litigation While Undermining Patents' Notice Function

1. Allowing patent plaintiffs to pursue "divided infringement" claims increases complexity and un-

predictability, promoting burdensome litigation – as borne out by the experience of *amici*. *See* Google Br. 14, 19 (listing cases); CTIA Br. 22-23 (same); Altera Br. 13 ("patent owners have already begun to assert inducement liability under § 271(b) in lieu of contributory infringement under § 271(c)"); Clearing House Br. 2 ("[f]inancial institutions are already facing an increased number of claims"); *see also* Cargill Br. 7 (warning of "consequences . . . far beyond the information-technology context").

The obligation to prove specific intent under § 271(b), *see* Resp. Br. 51, provides no safeguard: "the intent requirement as it is applied" cannot "effectively cabin" indirect-infringement claims. Google Br. 20; *see* Pet. Br. 43-45; IBM Br. 21-22; Clearing House Br. 25-26; CTIA Br. 19 ("scienter requirements are '"easy to allege and hard to disprove"'") (quoting *National Archives & Records Admin. v. Favish*, 541 U.S. 157, 175 (2004)); Altera Br. 10-14.

The situation would be worse yet under Akamai's expanded § 271(a). Although Akamai does little to flesh out its "flexible, fact-intensive standard," Br. 35, requiring mere knowledge of another's *conduct*, *see id.* at 27 & n.4, would provide no protection: customers, suppliers, and service providers frequently are aware of each others' respective roles in particular processes (tellingly, Akamai insists (at 51) that it could have sued Limelight's *customers* for direct infringement), and a patent owner can easily manufacture knowledge with a pre-suit notice. Small wonder that virtually every Federal Circuit judge rejected Akamai's call for such an expansive and unpredictable regime.

2. The problems created by Akamai's expanded liability regime would only intensify over time. *See* Cargill Br. 16-21. Instead of creating incentives to draw clear claims directed at the conduct of a single potential infringer, inventors will be encouraged to draft passive-voice method claims "to preserve the ability to pick and choose their otherwise-innocent targets." CTIA Br. 26; *see also* IP Scholars Br. 12. That is inconsistent with the public's right to have clear notice of what is claimed.

B. Rejection of Akamai's Proposed Expansion of the Patent Laws Would Not Affect Incentives To Innovate

If there were a "gap" in the statute, it would be for Congress to fill, *Deepsouth*, 406 U.S. at 531; Microsoft Br. 2-11; moreover, because method claims can be drafted from the point of view of a single potential infringer, there is no *prospective* gap and no effect on incentives for innovation. *See* Pet. Br. 45-46; Google Br. 21-25; Clearing House Br. 19-21; IP Scholars Br. 9-11.

Akamai argues (at 55) that it would be more "straightforward" to claim "interactive" methods without the bother of describing steps to be carried out by a single potential infringer. But claims drafted to cover the conduct of multiple independent actors undermine notice, allow patentees to claim the exclusive right to more than they have invented, and create unpredictable liability. *See* EFF Br. 12-19; CTIA Br. 23-30; Altera Br. 5-10; IBM Br. 16.

Akamai argues (at 53) that "[m]any historic inventions other than Akamai's were not only patented as methods, but as methods that had to be performed by *multiple* actors together." But the two expired patents that they cite – one related to data encryp-

tion and one to FM radio – both included claims written from the point of view of a single potential infringer. *See* U.S. Patent No. 4,200,770[18] claims 1, 7; *Armstrong v. Emerson Radio & Phonograph Corp.*, 179 F. Supp. 95, 108 (S.D.N.Y. 1959) (construing claims 1 and 2 as describing systems). The principal claim of Akamai's '703 patent – claim 1 – is a system or apparatus claim (which includes a routine – that is, software – for modifying URLs). That claim is unenforceable not because it requires multiple actors, but because it has been held to be invalid. *See supra* n.2.

Although Akamai's *amici* argue that certain types of patents – casino games, certain business methods, and drug-treatment techniques – are more difficult to draft from the point of view of a single infringer, *cf.* Pet. Br. 47-49, they offer no specific examples. The desire to relieve patent owners of the consequences of infelicitous drafting provides no justification for blurring the clear statutory lines and long-settled doctrinal principles that govern the issue before this Court.

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[18] Whether the '770 *patent* – as opposed to the underlying mathematics – was important is debatable. *See RSA Data Sec., Inc. v. Cylink Corp.*, Civ. No. 96-20094SW, 1996 WL 107272, at *4 (N.D. Cal. Mar. 4, 1996) (denying preliminary injunction based on invalidity concerns).

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted,

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SUPPLEMENTAL BRIEF

RECORD AND BRIEFS

Nos. 12-786 and 12-960

Supreme Court, U.S.
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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

AKAMAI TECHNOLOGIES, INC. AND
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Petitioners,

v.

LIMELIGHT NETWORKS, INC.,
Respondent.

On Petition and Conditional Cross-Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

SUPPLEMENTAL BRIEF OF AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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SUPPLEMENTAL BRIEF OF AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The government's brief cannot be reconciled with itself. After explaining that the indirect-infringement question presented in Limelight's petition has only limited practical significance, the government recommends that the Court grant that petition to "bring certainty to the many parties potentially affected by the decision." U.S. Br. 20. But the government then asks this Court to deny that very certainty by declining to consider the logically antecedent and inextricably intertwined direct-infringement question presented in Akamai's conditional cross-petition. Even by the government's own logic, a grant of Akamai's cross-petition should follow a fortiori from any grant of Limelight's petition.

Indeed, *every* reason the government gives for granting Limelight's petition applies with equal or greater force to Akamai's cross-petition: the court of appeals' direct-infringement jurisprudence is wrong, as the government at least implicitly concedes; that issue is more ripe than the indirect-infringement question in this case, because it is the only one of those questions that the jury actually considered; and after the Federal Circuit's en banc decision below, the remaining uncertainty relates to direct, not indirect, infringement.

In Akamai's view, this Court should deny the petitions. But the course that would make by far the

least sense is the one recommended by the government—granting the petition while denying the cross-petition—especially considering that, as a matter of fundamental statutory-construction principles, this Court should not construe the Patent Act's direct- and indirect-infringement provisions in isolation from one another.

I. THE COURT SHOULD DENY THE PETITION

The government's brief persuasively refutes Limelight's contentions that the inducement question on which Limelight has sought certiorari is extraordinarily important and that the court of appeals' decision conflicts with decisions of this Court (decisions that do not even address the question presented). The government's analysis of those points is correct; the problem is its conclusion, which is hard to square with the government's underlying analysis.

Whereas Limelight and its amici argued that the sky was falling in any number of ways as a result of the appellate court's ruling (*see, e.g.*, Pet. 31), the government at least implicitly rejects those contentions. As the government explains, an entity can be liable for inducement only in the limited circumstance when it intentionally performs some steps of a patented method while deliberately inducing others to perform the remainder. U.S. Br. 19-20 n.7. Thus, even in its view, there are no traps for the unwary here. Further, the government agrees that, "[i]n each circumstance [where joint infringement typically arises], the process has been

performed, and sound reasons of patent policy may support holding one or more parties liable." *Id.* at 8. Indeed, "[a]s a matter of patent policy, there is no obvious reason why a party should be liable for inducing infringement when it actively induces another party to perform all the steps of the process, but not liable when it performs some steps and induces another party to perform the rest." *Id.* at 9.[1]

The government contends that certiorari is nonetheless warranted because some companies may have relied on prior decisions authorizing such "unfortunate" evasions of patent rights. *Id.* at 10, 18-19. But a change in the court of appeals' jurisprudence is not, by itself, a reason to grant review—this Court has denied review in numerous cases in which the Federal Circuit or another court of appeals overruled one of its earlier decisions. *E.g.*, *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007) (en banc) (overruling *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380 (Fed. Cir. 1983), on willful infringement), *cert. denied*, 552 U.S. 1230 (2008); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348 (Fed. Cir. 2009) (en banc) (overruling *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366 (Fed. Cir. 2005), on 35 U.S.C. § 271(f) and method patents), *cert. denied*, 558 U.S. 1115 (2010).

Moreover, there are no valid reliance interests here because the law has not traditionally

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[1] The government also agrees that the question presented arises only in the context of method claims. U.S. Br. 2-3 n.2.

recognized the enormous loophole to patent protection that Limelight seeks. *See* Akamai Opp'n 16-17, 22-23. Instead, Limelight is relying on a line of decisions that began in 2007, just five years before the decision below.[2] As the court of appeals explained, it was those decisions that "changed the pre-existing regime with respect to induced infringement." Pet. App. 28a. If the government is correct that some companies had been structuring their affairs to evade patent rights by taking advantage of those recent decisions, that is a reason to embrace the en banc court's course correction, not to question it. In any event, this Court has rejected similar settled-expectations arguments in overruling far more established lines of Federal Circuit jurisprudence. *See e.g.*, *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007); *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013). There is no reason to discourage the Federal Circuit from correcting its own, recent mistakes.

In the end, therefore, the government's underlying assessment of the importance of the question presented confirms that its conclusion is wrong—the existence of a limited inducement remedy against clearly culpable parties is not, by itself, sufficiently important to warrant review. Indeed, the government agrees that this Court's

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[2] *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008); *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010).

precedents do not even address the question of joint infringement, undermining Petitioner's position that the appellate court's decision conflicts with this Court's precedents. U.S. Br. 12-13.

Beyond that, the government's analysis of the merits generally parrots arguments made by Limelight, but fails to consider Akamai's responses (Akamai Opp'n 17-27). The government does, however, concede that the common law provides the relevant backdrop for construing 35 U.S.C. § 271 (U.S. Br. 8-9). And there can be no serious contention that the common law would not have tolerated such an evasion of a legally protected interest. *See, e.g.*, Restatement (Second) of Torts § 877(a) (1979) (person liable for tortious conduct if he "orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own" regardless of induced party's liability); Pet. App. 16a-18a. The Patent Act does not clearly displace that considered jurisprudence.

II. AT A MINIMUM, THE COURT SHOULD GRANT THE CROSS-PETITION

If the Court grants Limelight's petition, it follows that the Court should also grant Akamai's conditional cross-petition. The premise for the government's argument advancing review of § 271(b) is that there can be no liability for induced infringement under § 271(b) unless there is a liable direct infringer under § 271(a). Therefore, under the government's own analysis, to properly address

§ 271(b) liability, one must first address the question: what constitutes infringement under § 271(a). The government would nonetheless have this Court consider only the second (indirect-infringement) half of the relevant analysis—which is not the half that was tried to a jury, resulted in the jury verdict in Akamai's favor, and became the question presented on appeal in this case. The government's brief merely assumes arguendo the absence of a liable direct infringer in this case.

This case presents a situation in which Limelight joined together with another entity to collectively perform all the steps of a claimed method. Indeed, the combined performance of those steps was the entire basis of Limelight's business model. At the same time that it assumes that Limelight is not liable, the government recognizes that this is an "unfortunate result" and attributes that result to an alleged "gap" in the "Patent Act." In fact, any such "gap" would be a creation of the Federal Circuit's incorrect interpretation of § 271(a), the very provision that the government urges this Court to ignore. As Akamai has explained, nothing in the statute creates such a gap. Cross-Pet. 21-22.

The government's justifications for leaving § 271(a) liability unexamined are incorrect. The standard for direct infringement under § 271(a) has greater impact than the Federal Circuit's recognition of a limited inducement remedy under § 271(b). Moreover, the § 271(a) issue was the one actually put to the jury in this case and provided the lower court's basis for rejecting the jury's verdict. Thus, any

argument that the untried issue, § 271(b) liability, is somehow "more ripe" for review rings hollow.

A. The Government's Brief Shows that the § 271(b) Issue Requires Consideration of § 271(a)

Although the government states in a footnote that the direct- and indirect-infringement issues are not "inextricably intertwined" (U.S. Br. 22 n.9), it ignores the parts of Limelight's and its own briefs that show they are. Specifically, Limelight's question presented—whether a defendant may be liable "under 35 U.S.C. § 271(b) even though no one has committed direct infringement under § 271(a)"—expressly presumes that there is no direct-infringement liability. If the Federal Circuit is wrong about direct infringement under § 271(a), the inducement question presented would not even arise in this case.

Equally important, the government's brief makes clear its view that interpretation of subsection (a) informs the interpretation of subsection (b). The government analyzes subsection (a) as part of its interpretation of subsection (b), asserting that "[t]he 'infringement' to which Section 271(b) refers is the conduct defined in Section 271(a)." U.S. Br. 11-14. Thus, even if the Court were to grant only the petition, the parties would have to brief the issue in the cross-petition as part of their statutory construction of subsection (b). Indeed, Limelight and others have repeatedly argued that subsections (a) and (b) must be read in

light of one another as part of Congress's overall design. Pet. 21-22.

The government also concludes that "the Patent Act" may not provide a complete solution to the problem of joint infringement and that it would be up to Congress—not the courts—to close any statutory gap in § 271. U.S. Br. 10. As the government acknowledges, however, § 271(a) and (b) incorporate the common-law backdrop of joint- and vicarious-liability rules. *Id.* at 8-9. The entire point of the doctrine that Congress presumptively incorporates background common-law principles into its statutes is to avoid unnecessarily creating the kind of gap at issue here. *See, e.g., Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 435 (1984) (interpreting Copyright Act to include contributory infringement despite absence of express language in the statute). Moreover, the common-law rules work together, not in isolation from one another: "the lines between direct infringement, contributory infringement and vicarious liability are not clearly drawn" precisely because they are all "species of the broader problem of identifying the circumstances in which it is just to hold one individual accountable for the actions of another." *Id.* The close relationship and overlap between the common-law attribution doctrines would make it especially unreasonable to create an unnecessary gap by considering only indirect infringement in isolation from direct infringement.

Finally, the government argues that it would be anomalous to recognize liability for inducement in circumstances where no one entity would be liable

for direct infringement. U.S. Br. 9-10. To the extent that the government implies that the court of appeals found that no direct infringement was required for a finding of induced infringement, it is wrong. Akamai Opp'n 13-14. In any event, that argument too ties the two questions in the petition and cross-petition together.

Akamai does not believe that a cross-petition is jurisdictionally required for this Court to consider the logically antecedent, and thus fairly included, question of direct infringement. Akamai Reply 5. But not granting the cross-petition would introduce confusion and potential for further delay into the proceedings. If this Court grants the cross-petition, in contrast, there is no question that this Court will have jurisdiction to resolve this case on the ground of its choosing, as the Federal Circuit did by expressly granting en banc review of both issues.

B. The Question in the Conditional Cross-Petition Is at Least as Important and Ripe as That in the Petition

Even apart from its relationship with the indirect-infringement question, the direct-infringement question is actually the more certworthy of the two. The government does not dispute that the direct-infringement issue is at least as important as the inducement one. U.S. Br. 21-23. A method claim is infringed when every step of the claim is performed. *Id.* at 2 (citing *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005)). Thus, every time a patented method is

infringed, there will necessarily be one or more direct actors who perform the steps of the claim, but there may or may not be an inducer of that performance. Further, whereas direct infringement requires only that all of the method steps are performed, there are a number of other criteria for finding inducement. *See* Pet. App. 30a (identifying criteria Akamai must satisfy on remand). As a result, direct infringement may provide the only viable remedy in many if not most joint-infringement cases. In addition, if a direct actor is liable for direct infringement, that actor's liability unquestionably provides a predicate for holding an inducer liable (U.S. Br. 18-19), making Limelight's question presented irrelevant. For at least these reasons, the cross-petition raises an issue as important, if not more important, than the petition.

The government asserts that granting Limelight's petition would "bring certainty to the many parties potentially affected by the decision." *Id.* at 20. But, after the appellate court's en banc rulings, the remaining uncertainty relates to direct infringement. Indeed, in arguing otherwise, the government has it backwards because, under the appellate court's current case law, there is certainty about the inducement question. The government simply disagrees with the appellate court's holding, but that does not make it in any way unclear. In contrast, there is uncertainty about direct infringement because the en banc court failed to resolve it (Pet. App. 6a) and recent panel decisions on direct infringement are inconsistent with each other (*see* Akamai Reply 6-7) and earlier decisions. Indeed, prior to 2007, the appeals court had agreed

that "[i]t is not necessary for the acts that constitute infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement." *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1344-45 (Fed. Cir. 2006).

On the merits, the government pointedly refuses to fully endorse the Federal Circuit's direct-infringement jurisprudence, stating only that the court is generally correct to look to common-law principles of vicarious liability. U.S. Br. 8-9, 22. In so doing, the government never identifies the Federal Circuit's actual holding—that "[a]bsent an agency relationship between the actors or some equivalent," a party cannot be held liable "even if the parties have arranged to 'divide' their acts of infringing conduct for the specific purpose of avoiding infringement liability." Pet. App. 6a. This is telling.

As Akamai has already explained, and the government does not dispute, common-law attribution principles are much broader than the Federal Circuit's test acknowledges. Akamai Reply 8-11. These principles of joint and vicarious liability have developed over time and reflect the "circumstances in which" experience has shown "it is just to hold one individual accountable for the actions of another." *Sony*, 464 U.S. at 435. For example, the common law has long imposed liability "where the acts of each of two or more parties, standing alone, would not be wrongful, but together

they cause harm to the plaintiff." W. Page Keeton et al., *Prosser & Keeton on Torts* § 52, at 354 (5th ed. 1984). Otherwise, the defendants "might all laugh [at the plaintiff] and say, 'You cannot sue any one of us because you cannot prove that what each one of us does would of itself [have been] enough to cause you damage.'" *Blair v. Deakin*, 57 L.T. 522, 525 (1887). The government argues that courts should not "attempt to devise patent-specific rules of vicarious liability" for § 271(a). U.S. Br. 9. But that is unquestionably what the Federal Circuit has done, which is presumably why the government does not acknowledge, much less agree with, the Federal Circuit's agency or contractual-obligation test.

That leaves the government's suggestion that the direct-infringement issue is not ripe for review, but the inducement issue is. *Id.* at 21-23. The government gets matters backwards because, of the two issues, direct infringement is the *only* one litigated below. Indeed, the jury was specifically instructed on the *BMC* control or direction test and found that Limelight directly infringed, but the appellate court found no agency or contractual-obligation. Pet. App. 107a-108a. On the other hand, the jury was not even asked to consider the induced-infringement question. On appeal, the Federal Circuit vacated the direct-infringement judgment and remanded so that Akamai could pursue an inducement remedy in the district court. Given this procedural posture, the direct-infringement issue is more ripe for review than the inducement-infringement issue, which would be considered for the first time on remand.

* * *

In the end, the government's recommendation of a grant is premised on its assertion that clarity is needed. If so, the only way to provide that clarity is to consider the logically antecedent and more important direct-infringement question, especially since that was the question considered on the merits below.

CONCLUSION

For the foregoing reasons, the Court should deny the petition or, if it does grant the petition, it should also grant the cross-petition.

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AMICUS CURIAE BRIEF

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BRIEFS

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In the Supreme Court of the United States

LIMELIGHT NETWORKS, INC., PETITIONER

v.

AKAMAI TECHNOLOGIES, INC., ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING PETITIONER

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QUESTION PRESENTED

Whether a defendant that performs some steps of a patented method and that actively induces its customers to perform the remaining steps is liable for inducement of infringement under 35 U.S.C. 271(b).

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In the Supreme Court of the United States

No. 12-786

LIMELIGHT NETWORKS, INC., PETITIONER

v.

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ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING PETITIONER

INTEREST OF THE UNITED STATES

This case presents the question whether a party may be held liable for inducing infringement of a patent under 35 U.S.C. 271(b) if no party has directly infringed the patent within the meaning of 35 U.S.C. 271(a). The United States Patent and Trademark Office (PTO), which is responsible for "the granting and issuing of patents," 35 U.S.C. 2(a)(1), as well as for advising the President on issues of patent policy, 35 U.S.C. 2(b)(8), has a substantial interest in the resolution of that question. At the invitation of the Court, the United States filed a brief as amicus curiae at the petition stage of this case.

STATEMENT

1. Any person who invents a "new and useful process, machine, manufacture, or composition of matter"

may obtain a patent in accordance with the conditions and requirements of the Patent Act. 35 U.S.C. 101. The Patent Act grants a patent holder certain exclusive rights, 35 U.S.C. 154, which may be enforced through a civil action for infringement. 35 U.S.C. 271, 281, 284.

The acts that give rise to liability for patent infringement are defined in 35 U.S.C. 271. Section 271(a) sets forth the Patent Act's general definition of direct infringement, providing in relevant part that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States * * * infringes the patent." 35 U.S.C. 271(a). Subsections (b) and (c) then define two types of indirect infringement—respectively, active inducement of infringement and contributory infringement. Section 271(b), the provision at issue here, states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. 271(b).

A patent claiming a process "is not infringed unless all steps or stages of the claimed process are utilized." *NTP, Inc.* v. *Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) (citation omitted), cert. denied, 546 U.S. 1157 (2006). To establish that the defendant has "used" the process and has thereby committed direct infringement under Section 271(a), the patent owner ordinarily must prove that the defendant has himself performed all of the steps of the process.[1] The

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[1] By contrast, when a patent claims a "machine, manufacture, or composition of matter," 35 U.S.C. 101, a party need not make all of the invention's constituent parts in order to be liable for "making" the invention and thereby engaging in direct infringement under Section 271(a). "In the case of a product claim, the party that adds the final element to the combination 'makes' the infringing product

Federal Circuit has held, however, that when two or more parties collectively perform all of the steps of a patented process, a court may hold one of the parties liable for direct infringement under Section 271(a) if the acts of the other party are attributable to him under common-law principles of vicarious liability. See generally *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318 (2008), cert. denied, 556 U.S. 1105 (2009).

Although the scope of that liability has evolved over time, the prevailing rule in the Federal Circuit is that "where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'" *Muniauction*, 532 F.3d at 1329; see *BMC Res., Inc.* v. *Paymentech, L.P.*, 498 F.3d 1373, 1379-1381 (Fed. Cir. 2007). The "control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method." *Muniauction*, 532 F.3d at 1330; see *Golden Hour Data Sys. Inc.* v. *emsCharts, Inc.*, 614 F.3d 1367, 1371, 1373, 1380-1381 (Fed. Cir. 2010).

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and thus is liable for direct infringement even if others make portions of the product." Pet. App. 25a. By the same token, a person who actively induces that party to add the final element and thereby "make" the patented product is liable under Section 271(b). The problem presented in this case arises only when the patented invention is a process, rather than a machine, manufacture, or composition of matter.

2. Respondent Akamai Technologies, Inc. (Akamai) is the exclusive licensee of the patent at issue in this case, known as the '703 patent, which claims a method of structuring websites and their supporting servers that allows the sites to handle internet traffic more efficiently. Pet. App. 101a-104a. The method involves placing some elements of a content provider's website onto supporting servers and altering the provider's website so that it is able to access the elements that have been stored on the supporting servers. *Ibid.*

In 2006, Akamai brought this infringement action against petitioner Limelight Networks (Limelight). Pet. App. 104a-105a. Akamai alleged that Limelight had performed some of the steps of Akamai's patented process and had caused Limelight's customers—website content providers—to perform the remaining steps of choosing elements to outsource and tagging them as instructed by Limelight. *Id.* at 105a-106a. A jury found that Limelight had not established that the '703 patent was invalid and that Limelight had infringed the patent. *Id.* at 105a.

The district court granted Limelight's motion for judgment as a matter of law, concluding that Akamai had not established that Limelight had directly infringed the '703 patent. Pet. App. 181a-194a. The court concluded that the performance by Limelight's customers of certain steps of the '703 patent could not be attributed to Limelight under *Muniauction*. The court explained that establishing the requisite "direction or control requires something more than merely a contractual agreement to pay for a defendant's services and instructions or directions on how to utilize those services." *Id.* at 190a.

3. A panel of the Federal Circuit affirmed. Pet. App. 100a-135a. The panel held that "there can only be joint infringement [under 35 U.S.C. 271(a)] when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps." Pet. App. 112a. The panel concluded that Limelight and its customers lacked the requisite agency or contractual relationship. *Id.* at 113a-117a.

4. The Federal Circuit granted rehearing en banc. The court reversed the district court's holding that Limelight was not liable for infringement and remanded for further proceedings.

a. The court of appeals held that this case "and cases like [it] can be resolved through an application of the doctrine of induced infringement" under Section 271(b). Pet. App. 3a. Specifically, the court held that a party that performs some steps of a patented process and actively induces another to commit the remaining steps is liable for inducement of infringement under Section 271(b), even if no party would be liable for direct infringement under Section 271(a). *Id.* at 9a. The court therefore found it unnecessary "to revisit" its precedents concerning the circumstances under which parties who jointly practice the steps of a patented process may be liable for direct infringement under Section 271(a). *Id.* at 6a.

The court of appeals acknowledged the "well settled" principle that "there can be no indirect infringement without direct infringement." Pet. App. 8a (citing *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 526 (1972)). The court concluded, however, that "[r]equiring proof that there *has been* direct infringement as a predicate for induced infringement is

not the same as requiring proof that a single party would be *liable* as a direct infringer," and that the latter is not required. *Id.* at 9a. The court reasoned that, if a party has "knowingly induced others to commit the acts necessary to infringe" the patent, "there is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement." *Ibid.*

The court of appeals concluded that its holding was "entirely consistent" with the text of Section 271(b). Pet. App. 10a. That provision subjects a defendant to liability for "actively induc[ing] infringement." 35 U.S.C. 271(b). In the court's view, "[n]othing [in Section 271(b)] indicates that the term 'infringement' * * * is limited to 'infringement' by a single entity." Pet. App. 10a. Rather, the court explained, the term "infringement" in Section 271(b) "appears to refer most naturally to the acts necessary to infringe a patent." *Ibid.* The court discerned additional support for its construction in legislative testimony by Giles Rich, a primary author of the Patent Act of 1952, ch. 950, 66 Stat. 792 (35 U.S.C. 1 *et seq.*), as well as in certain tort-law doctrines and criminal statutes that, in the court's view, contemplated that one who induces wrongful conduct may be liable even if the primary actor is not. Pet. App. 10a-19a.

The court of appeals accordingly remanded the case to the district court to permit Akamai to attempt to demonstrate that "(1) Limelight knew of Akamai's patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed

method, and (4) the content providers in fact performed that final step." Pet. App. 30a.

b. Judge Linn, joined by Judges Dyk, Prost, and O'Malley, issued a dissenting opinion. Pet. App. 69a-99a. Judge Newman issued a separate dissent. *Id.* at 31a-68a. Both dissenting opinions argued that a party "induces infringement" under Section 271(b) only when the induced conduct itself constitutes direct infringement under Section 271(a), such that there is a direct infringer. *Id.* at 49a-52a (Newman, J.); 71a-90a (Linn, J.).

SUMMARY OF ARGUMENT

I. The Patent Act as currently drafted does not provide a ready mechanism for addressing the full range of circumstances in which two or more parties, acting without the authorization of the patent owner, collectively perform all the steps of a patented process. In such cases, no party has individually performed all of the steps in the process, and hence no party would ordinarily be liable for direct infringement under Section 271(a). But the patented process has been performed in its entirety without the patent holder's authorization, and sound reasons of patent policy may support holding one or more parties liable.

Before this case, the Federal Circuit had addressed collective performance exclusively under the framework of direct infringement, relying on established vicarious-liability principles to attribute one party's performance of process steps to another, controlling, party. That framework, however, does not reach cases such as this one, in which the vendor performs some steps and instructs its subscribers how to perform the rest, but the subscribers are not contractually or otherwise obligated to do so.

The Federal Circuit accordingly turned to inducement liability under Section 271(b), holding that a party that performs some steps of a process and actively induces another to perform the rest is liable for inducement of infringement. Although that approach has common-sense appeal, it creates a significant anomaly: a party may be liable for "actively induc[ing] infringement," 35 U.S.C. 271(b), even though there is no potentially liable direct infringer. Because that result is inconsistent with the Patent Act's text and structure, the Federal Circuit's decision should be reversed.

II. A defendant may be liable for inducement of infringement only if he has induced conduct that constitutes direct infringement. Section 271(a) defines direct infringement by providing that a person who "uses" any "patented invention * * * infringes the patent." 35 U.S.C. 271(a). Section 271(b) then provides that "[w]hoever actively induces *infringement* of a patent shall be liable as an infringer." 35 U.S.C. 271(b) (emphasis added). Because Section 271(b) does not set forth an independent definition of "infringement," the "infringement" to which Section 271(b) primarily refers is the conduct defined in Section 271(a) as "infring[ing] the patent." Thus, Limelight could properly be held liable under Section 271(b) only if it "actively induce[d]" conduct that "infringe[d] the patent" under Section 271(a)—in other words, if it induced its customers each to perform all of the steps of the patented process. That construction of Subsections (a) and (b) is consistent with this Court's repeated statements that a completed act of direct infringement is necessary before a party can be liable for

indirect infringement. See, *e.g.*, *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

In expanding the scope of inducement liability, the court of appeals relied primarily on general background principles of tort and criminal law. Those principles, however, require that the inducer aid conduct that either constitutes a tort or a criminal offense in itself, or that would be a tort or offense if committed by the inducer. Under the court's construction of Section 271(b), however, neither the inducer nor the induced party has committed infringement. The court of appeals also relied on witness testimony in congressional hearings concerning the legislation that became the 1952 Patent Act, as well as on isolated statements in two pre-1952 circuit-court decisions, but neither source provides reliable evidence of Congress's intent in enacting Section 271.

III. Although the Federal Circuit's decision reflects the reasonable view that sound patent policy would support imposing liability on parties who perform some steps of process and induce others to perform the rest, that policy judgment does not justify expanding liability beyond the scope contemplated in Section 271(b). See *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 452, 456-458 (2007). The parties and the judges of the Federal Circuit have identified a number of competing policy concerns that are relevant to assessing the desirability of the Federal Circuit's rule, including the resulting scope of liability, the extent to which careful claim drafting can avoid collective infringement, and the relative strength or validity of the patents most susceptible to collective infringement. Congress is better positioned than are the courts to address those empirical and policy questions, and to

determine whether the relatively new problem of joint performance of patented methods warrants a legislative response.

ARGUMENT

I. JOINT PERFORMANCE OF THE STEPS OF A PATENTED PROCESS BY MULTIPLE PARTIES PRESENTS SUBSTANTIAL PROBLEMS OF STATUTORY INTERPRETATION AND PATENT POLICY, AND THE PATENT ACT AS CURRENTLY DRAFTED MAY NOT PROVIDE A COMPLETE SOLUTION

A. The Federal Circuit's decision in this case reflects a considered effort to address the difficult issues that arise when two or more parties, acting without the authorization of the patent owner, collectively perform all the steps of a patented process. Collective performance of a patented process can occur in a variety of circumstances, including when one party directs or controls the actions of another, cf. *BMC Res., Inc.* v. *Paymentech, L.P.*, 498 F.3d 1373, 1375 (Fed. Cir. 2007); when two parties collaborate in the context of an arms'-length cooperative arrangement, *Golden Hour Data Sys. Inc.* v. *emsCharts, Inc.*, 614 F.3d 1367, 1369 (Fed. Cir. 2010); or when (as here) a vendor offers a service in which the vendor performs some steps of the process and instructs its customers on how to perform the rest. In each circumstance, the patented process has been performed in its entirety without the patent holder's authorization, and sound reasons of patent policy may support holding one or more parties liable.

In such cases, however, no party has individually performed all of the steps in the process, and hence no party would ordinarily be liable for direct infringement under Section 271(a). The Patent Act gives the

patentee the right to "exclude others" from "using" the "invention." 35 U.S.C. 154(a). Accordingly, Section 271(a) provides that direct "infringe[ment]" occurs when a defendant, without authority, "uses" the "patented invention." 35 U.S.C. 271(a). In the case of a method patent, which generally consists of multiple steps, the "patented invention" is the entire series of steps. See *Warner-Jenkinson Co.* v. *Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) ("Each element contained in a patent claim is deemed material to defining the scope of the patented invention."); cf. *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336, 344 (1961) ("For if anything is settled in the patent law, it is that the combination patent covers only the totality of the elements in the claim and that no element, separately viewed, is within the grant.").

As a result, to "use[]" a patented process without authorization, thereby infringing it, a party must perform every step of the method. See *Royer* v. *Coupe*, 146 U.S. 524, 530 (1892) ("it must be shown that the defendants used all the different steps of that process, or there could be no infringement; [but] the defendants did not use the sweating process, which was the first step in the plaintiff's treatment, and therefore did not infringe"); see also *NTP, Inc.* v. *Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005), cert. denied, 546 U.S. 1157 (2006). The effect of that rule is that a process claim is infringed only when a *single* party has performed all of the steps of the claim. When two or more parties each perform some, but not all, of the process's steps, neither defendant has "use[d]" the "patented invention," and therefore neither defendant has committed infringement. That is so even though, from the perspec-

tive of the patentee, the defendants have combined to perform all of the process's steps.

B. The Federal Circuit has attempted to identify circumstances, consistent with the rule that a party must perform all the steps of a process in order to infringe, in which a party who participates in the collective practice of a patented invention may be liable for infringement. But it is difficult to bring all of the scenarios that may appear to warrant liability within the ambit of Section 271, and no single solution is free of significant drawbacks.

Before this case, the Federal Circuit had addressed the collective practice of patented processes exclusively under the rubric of direct infringement. Applying traditional principles of vicarious liability, the court has held that, when one party exercises "control or direction" over another, the latter's performance of particular steps may be attributed to the controlling party, rendering him liable under Section 271(a). See, *e.g.*, *Muniauction, Inc.* v. *Thomson Corp.*, 532 F.3d 1318, 1330 (2008), cert. denied, 556 U.S. 1105 (2009); Pet. App. 92a (Linn, J., dissenting) ("Our 'divided infringement' case law is rooted in traditional principles of vicarious liability."). That overarching approach is correct.

"Infringement [of a patent], whether direct or contributory, is essentially a tort." *Carbice Corp. of Am.* v. *American Patents Dev. Corp.*, 283 U.S. 27, 33 (1931). And in enacting the Patent Act, Congress "legislate[d] against a legal background of ordinary tort-related vicarious liability rules and consequently intend[ed] its legislation to incorporate those rules," *Meyer* v. *Holley*, 537 U.S. 280, 285 (2003). For purposes of direct-infringement liability under Section

271(a), an alleged infringer therefore may properly be treated as having performed any act that would be attributable to it under established principles of vicarious liability.

The "control or direction" framework does not reach cases like this one, however, in which the vendor instructs its subscribers how to perform the process's remaining steps, but the subscribers are not contractually or otherwise obligated to do so. Pet. App. 30a (upholding the district court's conclusion that Limelight did not exercise control over its customers); *id.* at 115a-116a; cf. *Muniauction*, 532 F.3d at 1329 (in the vicarious-liability approach, one party must "exercise[] 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind'"). Nor should courts attempt to devise patent-specific rules of vicarious liability in order to bring such scenarios within the coverage of Section 271(a). Cf. *eBay Inc.* v. *MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (in the context of injunctive relief in patent infringement actions, "a major departure from the long tradition of equity practice should not be lightly implied") (citation omitted).

Perhaps because the Federal Circuit recognized the limitations of Section 271(a) in addressing cases like this one, the court turned instead to inducement liability under Section 271(b). That approach has intuitive appeal. Under ordinary principles of inducement liability, if a vendor induces its customers to practice all of the steps in the patented process, and does so with knowledge that the induced acts constitute infringement, the vendor would be liable for actively inducing infringement under Section 271(b), and

the customers would be liable for direct infringement under Section 271(a). See *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster Ltd.*, 545 U.S. 913, 940 (2005); *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060 (2011). As a matter of patent policy, there is no obvious reason why a party should be liable for inducing infringement when it actively induces another party to perform all the steps of the process, but not liable when it performs some steps and induces another party to perform the rest. On the other hand, the Federal Circuit's approach creates a significant anomaly—namely, that a party may be liable for "actively induc[ing] infringement," 35 U.S.C. 271(b), even though no one can be held liable as a direct infringer. The Federal Circuit's construction of Section 271(b) is also inconsistent with the most straightforward reading of the statutory text and unsupported by background legal principles. See Parts II.A and II.C, *infra*.

The Federal Circuit's inducement holding should accordingly be reversed. Doing so will likely permit vendors such as Limelight to avoid liability altogether, as inducement liability will not be available and traditional principles of vicarious liability would not support attributing customers' voluntary actions to the vendor for purposes of direct-infringement liability. That statutory gap is unfortunate, but it reflects the better reading of the current statutory language in light of established background principles of vicarious liability. If the current provisions of Section 271 do not deal adequately with the relatively new phenomenon in which multiple parties collectively practice the steps of a patented method, the authority and responsibility for filling any perceived statutory gap belongs

to Congress rather than the courts. See Part III, *infra*; *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 456-458 (2007) (stating that a potential "loophole" in 35 U.S.C. 271(f) "is properly left for Congress to consider, and to close if it finds such action warranted").

II. TO ACTIVELY INDUCE INFRINGEMENT OF A PATENT UNDER SECTION 271(b), A PARTY MUST INDUCE ANOTHER TO COMMIT DIRECT INFRINGEMENT

Under the court of appeals' decision, a defendant who performs some steps of a process and induces another to perform the rest may be liable for "actively induc[ing] infringement," 35 U.S.C. 271(b), even though no person has "infringe[d] the patent" within the meaning of Section 271(a). Despite its intuitive appeal, that holding is inconsistent with the text and structure of the Patent Act, and it is unsupported by background principles of tort and criminal liability.

A. The Patent Act's Text Establishes That Inducement Liability Under Section 271(b) Is Predicated On The Existence Of A Direct Infringer Under Section 271(a)

1. Section 271(a) defines direct infringement by providing that "whoever without authority makes, uses, offers to sell, or sells any patented invention * * * infringes the patent." 35 U.S.C. 271(a). Section 271(a)'s language parallels Section 154(a)'s grant of exclusive rights to patent holders. 35 U.S.C. 154(a)(1) (providing patent holders "the right to exclude others from making, using, offering for sale, or selling the invention"). Section 271(a) thus establishes that an invasion of one of the exclusive rights granted to patent holders "constitutes infringement in the present statute." S. Rep. No. 1979, 82d Cong., 2d

Sess. 8 (1952) (*Senate Report*); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 9 (1952) (*House Report*). When the invention at issue is a method, a defendant commits infringement under Section 271(a) when he "uses" the "patented invention" by performing all of its steps. See pp. 10-12, *supra*; *NTP, Inc.*, 418 F.3d at 1318.

Section 271(b) operates in conjunction with Section 271(a) to define a form of secondary liability. Section 271(b) states that "[w]hoever actively induces *infringement* of a patent shall be liable as an infringer." 35 U.S.C. 271(b) (emphasis added). Because Section 271(b) does not set forth an independent definition of "infringement," the "infringement" to which Section 271(b) primarily refers is the conduct defined in Section 271(a) as "infring[ing] the patent."[2] 35 U.S.C. 271(a).

Thus, Limelight could properly be held liable under Section 271(b) only if it "actively induce[d]" conduct that "infringe[d] the patent" under Section 271(a). A person cannot be liable under Section 271(b) for "induc[ing] infringement" unless he has induced a second person to commit direct infringement, for which that

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[2] Two recent additions to Section 271 provide that certain narrow categories of conduct that are not encompassed by Section 271(a) also constitute infringement. See 35 U.S.C. 271(e)(2) (submitting an abbreviated new drug application to the FDA constitutes infringement in certain circumstances); 35 U.S.C. 271(g) (importing or selling a product made using a process patented in the United States is infringement). Those provisions define additional, more specific instances of "infringement" that, if actively induced, would support inducement liability under Section 271(b). But because Subsections (e)(2) and (g) do not address the conduct at issue here, Section 271(a) provides the definition of infringement that is relevant in this case.

person could be liable under Section 271(a). For example, if A performs steps 1-3 of a four-step process, and actively induces B to perform step 4, A has not induced "infringement," because B's conduct in itself does not "infringe[] the patent," 35 U.S.C. 271(a), and B would not be liable for direct infringement under Section 271(a).

Under the court of appeals' construction, however, a person can "induce[] infringement" under Section 271(b) even though the conduct he induces does not "infringe[] the patent" under Section 271(a). The court acknowledged that, under Section 271(a), a person does not "infringe[] the patent" to a method unless he performs all of its steps (or the performance of all of the steps can be attributed to him). Pet. App. 5a-6a. The court concluded, however, that the term "infringement" in Section 271(b) could refer to conduct that does not "infringe[] the patent" under Section 271(a)—*i.e.*, the combination of the inducing party's performance of steps 1-3 of the process and the induced party's performance of step 4. But the court identified no textual basis for decoupling Subsections (a) and (b). The court simply stated that "nothing in the text of either subsection suggests that the act of 'infringement' required for inducement under [S]ection 271(b) must qualify as an act that would make a person liable as an infringer under [S]ection 271(a)." *Id.* at 20a.

2. Section 281 reinforces the conclusion that the term "infringement" in Section 271(b) refers to conduct that "infringes the patent" under Section 271(a). Section 281 provides that "[a] patentee shall have remedy by civil action for infringement of his patent." 35 U.S.C. 281. That provision uses the term "in-

fringement" to refer to a violation of law for which some party can be held civilly liable. The court of appeals, by contrast, held that "direct infringement as a predicate for induced infringement" can exist even though no "single party would be *liable* as a direct infringer," Pet. App. 9a, on the theory that the term "infringement" in Section 271(b) "appears to refer most naturally to the acts necessary to infringe a patent," *id.* at 10a. The court thus construed the term "infringement" in Section 271(b) to encompass primary conduct (the collective performance by different actors of all steps of a patented process) that does not violate the law and does not give rise to any civil remedy.[3]

3. The court of appeals believed that its construction of Section 271(b) was supported by Sections 271(e)(2) and (g), which provide that certain conduct that otherwise would not fall within Section 271(a) constitutes direct infringement. 35 U.S.C. 271(e)(2) and (g); see note 2, *supra*. In the court's view, those provisions confirm that the statute uses the term "infringement" in a way that "is not limited to the circumstances that give rise to liability under [S]ection 271(a)." Pet. App. 20a. Although those provisions

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[3] In the court of appeals' view, Section 281 cannot "be read to mean that any act of infringement will necessarily be remediable through a civil action" because an accused infringer may assert various defenses (such as immunity from suit) that may ultimately prevent the patentee from recovering in the action. Pet. App. 21a. But whether the patentee will ultimately prevail in an action is irrelevant; Section 281's purpose is simply to establish that, when "infringement" occurs, the patentee has a legal basis for filing a civil action. Under the court of appeals' construction of the term, however, "infringement" encompasses conduct that does not provide any legal basis for filing suit.

do define additional categories of direct infringement, the court of appeals erred in inferring from them that Section 271(b) can establish inducement liability where no one would be liable under *any* of Section 271's defined categories of direct infringement.

Because Section 271(b) does not define the "infringement" that must be induced, Section 271's other subsections provide that definition, and the induced conduct must fall within one of the categories of direct infringement. Here, Limelight's conduct does not involve actions governed by Subsections (e)(2) and (g), so Subsection (a) defines the exclusive circumstances under which inducement liability could be imposed. Thus, Subsections (e)(2) and (g) do not support the court's construction of Section 271(b). To the extent those provisions are relevant here at all, they indicate that when "Congress intended to cover acts not encompassed within the traditional definition of infringement, it knew how to create an alternative definition thereof." Pet. App. 81a (Linn, J., dissenting).

The court of appeals also relied on Section 271(f)(1). That provision states that a person "shall be liable as an infringer" if he "actively induce[s]" assembly of a patented invention outside the United States "in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(1). The court found it significant that "the statutory term 'infringer' [in Section 271(f)(1)] does not advert to the requirements of [S]ection 271(a)." Pet. App. 20a-21a.

The court of appeals' reliance on Section 271(f)(1) was misplaced. Far from supporting the court's construction of Section 271(b), Section 271(f)(1) indicates that, when Congress wishes to impose infringement

liability for inducing conduct that does not constitute direct infringement, it enacts a specific provision to that effect.[4] Section 271(f)(1) thus reinforces the conclusion that Section 271(b) requires a direct infringer before inducement liability may be imposed.

Section 271(f)(1) also demonstrates that Congress is best placed to remedy any perceived deficiencies in Section 271's coverage. Congress enacted Section 271(f)(1) in the wake of *Deepsouth Packing Co.* v. *Laitram*, 406 U.S. 518 (1972), which held that Deepsouth was not liable for contributory infringement arising from its sale of the parts of a patented machine because the assembly and use of the machine was to occur outside the United States, beyond the reach of the Patent Act. *Id.* at 523, 526-527; see note 4, *supra*. To close that "gap in our patent law," Congress expressly provided for inducement liability in the absence of direct infringement. *Microsoft*, 550 U.S. at 457. If Congress concludes that a similar gap exists with respect to collective performance of method patents, it can enact appropriate legislation. See pp. 31-34, *infra*.

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[4] The Patent Act does not apply extraterritorially, and Section 271(a) defines direct infringement to include the "mak[ing]" of a "patented invention" "within the United States." 35 U.S.C. 271(a). The assembly outside the United States of goods covered by a U.S. patent therefore would not constitute direct infringement. Section 271(f)(1) reflects Congress's awareness of that fact, since it refers to inducement of conduct "that would infringe the patent if [it] occurred within the United States." 35 U.S.C. 271(f)(1); see p. 20, *infra*.

B. This Court's Decisions Reflect The Assumption That Indirect-Infringement Liability Requires A Direct Infringer

On several occasions, this Court has suggested that a completed act of direct infringement is necessary before a party can be liable for indirect infringement. Although none of those statements addressed the specific question presented here, they reflect a background understanding that is inconsistent with the expansive view of inducement liability the court below adopted.

In *Aro Manufacturing Co., supra*, the Court considered whether Aro, a company that sold replacement fabric for use with a patented convertible car roof, was liable for contributory infringement under Section 271(c). That provision defines contributory infringement as, *inter alia*, the knowing sale of a component for use in an "infringement" of a patent. 365 U.S. at 337-338, 340. The Court held that Aro's sale of the replacement fabric could "constitute contributory infringement under [Section] 271(c), if, but only if, such a replacement by the purchaser himself would in itself constitute a *direct* infringement under [Section] 271(a), for it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement." *Id.* at 340-341. The Court further explained that Section 271(c) "defines contributory infringement in terms of direct infringement," and "[Section] 271(a) of the Patent Code * * * defines 'infringement.'" *Id.* at 341-342. The Court concluded that, "if the purchaser and user could not be amerced as an infringer certainly one who sold to him * * * cannot be amerced for contributing to a non-existent infringement." *Id.* at 341 (quoting *Mer-*

coid v. *Mid-Continent Co.*, 320 U.S. 661, 674 (1944) (Roberts, J., dissenting)).

Similarly in *Deepsouth*, *supra*, this Court held that Deepsouth was not liable for contributory infringement when the alleged direct infringement was to occur outside the United States, beyond the reach of the Patent Act. 406 U.S. at 523, 526-527. The Court stated that "it is established that there can be no contributory infringement without the fact or intention of a direct infringement," and "[i]n a word, if there is no (direct) infringement of a patent there can be no contributory infringer." *Id.* at 526 (quoting *Mercoid Corp.*, 320 U.S. at 677 (Frankfurter, J., dissenting on other grounds)). The Court therefore held that, "in order to secure the [contributory infringement] injunction it seeks, [the plaintiff] must show a [Section] 271(a) direct infringement by Deepsouth in the United States, that is, that Deepsouth 'makes,' 'uses,' or 'sells' the patented product within the bounds of this country." *Id.* at 527.

Most recently, in *Global-Tech Appliances*, *supra*, the Court considered whether Section 271(b) requires the defendant to have *known* that the conduct he induced constituted infringement. In explaining that the text of Section 271(b) could reasonably be construed in either of two ways, the Court stated that the provision "may require merely that the inducer lead another to engage in conduct that happens to amount to infringement," or may require "that the inducer must persuade another to engage in conduct that the inducer knows is infringement." 131 S. Ct. at 2065 & n.2. The Court's articulation of those alternatives presupposed that the conduct being induced must *in fact* constitute direct infringement.

C. The Court Of Appeals' Construction Of Section 271(b) Is Not Justified By Secondary-Liability Principles Or The History Of The Patent Act

In expanding the scope of inducement liability, the court of appeals relied on general background principles of tort and criminal law, as well as on isolated statements in the 1952 Patent Act's legislative history and in two pre-1952 cases. Those sources do not support the court of appeals' decision.

1. Background tort- and criminal-law principles do not support construing Section 271(b) to permit inducement liability in the absence of a direct infringer

Secondary-liability principles found in tort and criminal law do not support the conclusion that a defendant may be liable for inducing infringement even in the absence of a culpable direct infringer.

a. In determining "the scope of conduct prohibited" by Section 271(b), "the text of the statute controls." *Central Bank of Denver, N.A.* v. *First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 173 (1994). Because Congress presumptively intended to incorporate well-established background principles of tort law (such as vicarious-liability principles) in enacting Sections 271(a) and (b), those principles may inform courts' interpretation of the statutory language. See *Meyer*, 537 U.S. at 285. No principle of tort law, however, supports reading Section 271(b) to permit inducement liability in the absence of a direct infringer.

Tort-law rules for holding one party responsible for another's conduct presuppose that the induced conduct is tortious in itself (or would be, if performed by the inducing party). The First and Second Restatements of Torts thus state that, in certain circum-

stances, one may be liable "[f]or harm resulting to a third person from the *tortious conduct of another*." Restatement (Second) of Torts § 876 (1979) (emphasis added); *id.* § 877 (providing for liability based on "[d]irecting or [p]ermitting" the "tortious conduct of another"); (Restatement (First) of Torts § 876 (1939) (also requiring the "tortious conduct of another"). Similarly, Section 877(a) of the Restatement (Second) of Torts provides that a person is liable for "the tortious conduct of another" if he "orders or induces the conduct, if he knows or should know of circumstances that would make the conduct tortious if it were his own." Under the court of appeals' construction of Section 271(b), by contrast, the induced party's conduct—performing some but not all steps of a patented process—does not in itself constitute "tortious" conduct (*i.e.*, infringement), and it would not be "tortious" if committed by the inducer.

The court of appeals also relied on decisions holding that a party may be liable for making a fraudulent misrepresentation that is communicated to a third party by an innocent (and non-liable) intermediary. See Pet. App. 18a-19a. Those cases are inapposite because they concern direct, not secondary, liability: a defendant may be held directly liable for an intended harm resulting from his misrepresentation, whether or not he makes the misrepresentation directly to the party who is injured by it. Restatement (Second) of Torts § 531; see also *id.* § 533 cmt. b; *Hoyt* v. *Clancey*, 180 F.2d 152, 158 (8th Cir. 1950). The misrepresentation cases cited by the court of appeals therefore do not rely on principles of secondary liability. Nor do they speak to the appropriate rule in situations where the defendant's liability is premised not on his own

breach of duty, but on his responsibility for causing another to commit a tort.[5]

b. The court of appeals also sought to draw upon criminal-law aiding-and-abetting principles, drawing an analogy to the general aiding-and-abetting statute, 18 U.S.C. 2. But to the extent that the language used in a criminal statute is relevant to the proper construction of Section 271(b), 18 U.S.C. 2 supports the conclusion that Section 271(b) requires a direct infringer.

Section 2(a), the criminal provision that is textually most similar to Section 271(b), states in relevant part that whoever "induces" the "commission" of "an offense against the United States" is "punishable as a principal." 18 U.S.C. 2(a). Section 2(a) thus requires that an underlying criminal "offense" have been committed—such that the person who commits it would be liable—before a defendant can be guilty of inducing that offense.[6] See *Central Bank of Denver, N.A.*, 511

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[5] Respondent contends that "a leading treatise on tort law explains [that] liability attaches 'where the acts of each of two or more parties, standing alone, *would not be wrongful*, but together they cause harm to the plaintiff.'" Br. in Opp. 25-26 (quoting W. Page Keeton et al., *Prosser and Keeton on the Law of Torts* § 52, at 354 (5th ed. 1984)). The treatise, however, describes that circumstance as raising a "very troublesome question" because "each defendant alone would have committed no tort." Prosser and Keeton § 52, at 354. The treatise goes on to note that in cases involving pollution and other public nuisances, some nineteenth-century courts expanded *direct*-liability principles to hold that a defendant's acts may be "wrongful" in "the context of what others are doing." *Ibid.* Those decisions provide no basis for interpreting Section 271(b) to extend secondary liability to situations in which no one has committed direct infringement.

[6] Although crimes such as attempt, conspiracy, and solicitation do not require completion of the primary criminal offense, that is

U.S. at 181 (Section 2(a) "decrees that those who provide knowing aid to persons committing federal crimes, with the intent to facilitate the crime, are themselves committing a crime."); see also *United States* v. *Lyons*, 740 F.3d 702, 715 (1st Cir. 2014) ("An aider and abettor is punishable as a principal if, first, someone else actually committed the offense and, second, the aider and abettor" intentionally assisted the principal.).

Contrary to the court of appeals' view, *Standefer* v. *United States*, 447 U.S. 10 (1980), does not suggest that Section 2(a) permits imposing criminal liability on the inducing party when no offense has occurred. Cf. Pet. App. 15a. In *Standefer*, this Court held that Standefer could be convicted under Section 2(a) of aiding a second person to commit an offense, even though the person who committed the offense had been acquitted in a separate trial. 447 U.S. at 20, 25-26. The Court did not suggest, as the court below appeared to believe, that Standefer could be convicted of aiding and abetting without proof (at *Standefer's* trial) that the principal committed an offense. To the contrary, the Court emphasized that, in order to establish Standefer's guilt under Section 2(a), the government was required to prove that the principal "violated [the criminal statute at issue] and that [Standefer] aided and abetted him in that venture." *Id.* at 26.

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only because they are so defined by statute. See, *e.g.*, 18 U.S.C. 371 ("If two or more persons conspire either to commit any offense against the United States, * * * and one or more of such persons do any act to effect the object of the conspiracy, each shall be" punished.). Section 271(b), by contrast, requires a predicate infringement.

The Federal Circuit also erred in relying on Section 2(b), which prohibits willfully "caus[ing] an act to be done which if directly performed [by the defendant] or another *would be an offense against the United States*." 18 U.S.C. 2(b) (emphasis added). That provision is "designed to impose criminal liability on one who causes an intermediary to commit a criminal act, even though the intermediary who performed the act has no criminal intent and hence is innocent of the substantive crime charged." *United States* v. *Tobon-Builes*, 706 F.2d 1092, 1099-1100 (11th Cir. 1983). Thus, when Congress intended to impose criminal secondary liability despite the principal's innocence, it expressly so provided, using language that is quite different from Section 271(b)'s.[7] And because Section 2(b) requires that the act in question "would be an offense" if committed by the defendant, it does not support an interpretation of Section 271(b) that would allow induced-infringement liability even though *neither* the inducer nor the induced party has committed infringement by performing all the steps of a method.

2. The Patent Act's legislative history does not support the court of appeals' construction of Section 271(b)

The legislative history of the 1952 Patent Act does not indicate that Congress intended to permit inducement liability in the absence of a direct infringer. To the contrary, the Senate and House reports' discussions of the relationship between Subsections (a) and (b) are consistent with the view that Section

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[7] There is no need for a parallel provision in the Patent Act, because direct infringement is a strict-liability offense. See *BMC Res.*, 498 F.3d at 1381.

271(a) defines infringement and Section 271(b) requires inducement of direct infringement. The reports state that Section 271(a) "is a declaration of what constitutes infringement in the present statute." *Senate Report* 8; *House Report* 9. They further explain that infringement as defined by Section 271(a) is co-extensive with any violation of the exclusive rights granted by Section 154. See *Senate Report* 8 ("[T]he granting clause creates certain exclusive rights and infringement would be any violation of those rights."). Section 271(b) then "recites in broad terms that one who aids and abets *an infringement* is likewise an infringer." *Ibid.* (emphasis added); *House Report* 9.

The court of appeals leaned heavily on the testimony of future Judge Giles Rich during a 1949 hearing on the proposed legislation that became the 1952 Patent Act. See Pet. App. 12a-14a. The court's reliance on that testimony was misplaced. Judge Rich stated that, "[w]hen two people combine and infringe a patent in some way or other, they are joint tort feasors, and it so happens that patents are often infringed by people acting in concert, either specifically or by implication, when neither one of them is a direct infringer." *Contributory Infringement: Hearings on H.R. 3866 Before Subcomm. No. 4 of the House Comm. on the Judiciary*, 81st Cong., 1st Sess. 3 (1950) (*H.R. 3866 Hearings*); see *Contributory Infringement in Patents: Hearings on H.R. 5988, H.R. 4061, and H.R. 5248 Before the Subcomm. on Patents, Trade-marks, and Copyrights of the House Comm. on the Judiciary*, 80th Cong., 2d Sess. 5 (1948) (discussing situations in which "there is obvious infringement of the patent," even though "there is no direct infringer of the patent but only two contributory infringers").

Although the court of appeals inferred from these statements that Judge Rich "viewed indirect infringement as an available remedy even in the absence of any single direct infringer," Pet. App. 14a, the testimony does not meaningfully clarify *Congress's* intent in enacting Section 271. See *Bryan* v. *United States*, 524 U.S. 184, 196 (1998); *Kelly* v. *Robinson*, 479 U.S. 36, 51 n.13 (1986). Judge Rich made other statements, moreover, suggesting that induced infringement under Section 271(b) requires that the induced conduct itself constitute direct infringement. See *H.R. 3866 Hearings* 5 (for there to be contributory infringement, "[s]omewhere along the line there must be a direct infringement"); *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the House Comm. on the Judiciary*, 82d Cong., 1st Sess. 151 (1951) ("[W]herever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed.").

3. Pre-1952 decisions do not establish that Section 271(b) imposes liability in the absence of direct infringement

The court of appeals also drew support from two pre-1952 Seventh Circuit decisions, but there is no reason to think that Congress intended to codify those rulings in the 1952 Patent Act. In *Peerless Equipment Co.* v. *W.H. Miner, Inc.*, 93 F.2d 98, 105 (1937), cert. denied, 303 U.S. 641 (1938), and *Solva Waterproof Glue Co.* v. *Perkins Glue Co.*, 251 F. 64, 73-74 (1918), the court of appeals held, with little explanation, that a party could be liable for contributory infringement if it performed some steps of a patented process and sold the resulting product, knowing that

the buyer would use the product to perform the remainder of the steps. In both cases, however, the court's method-claim holding was not necessary to impose liability on the defendant, as each defendant was also held liable for infringement of product claims. See *Peerless Equip.*, 93 F.2d at 105; *Solva Waterproof Glue*, 251 F. at 73-74. And in any event, one of Congress's stated purposes in enacting Sections 271(b) and (c) in the 1952 Patent Act was to "eliminate" the "[c]onsiderable doubt and confusion as to the scope of contributory infringement [that] has resulted from a number of decisions of the courts in recent years." *House Report* 9. Absent some indication that Congress knew of and intended to codify the Seventh Circuit's decisions, they provide no support for the decision below.[8]

III. THE POLICY CONCERNS IMPLICATED BY JOINT PERFORMANCE OF A PATENTED PROCESS ARE FOR CONGRESS TO WEIGH

The Federal Circuit stated that "there is no reason to immunize the inducer from liability for indirect

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[8] The court of appeals also cited a post-1952 decision, *Fromson* v. *Advance Offset Plate, Inc.*, 720 F.2d 1565, 1567 (Fed. Cir. 1983). Pet. App. 28a. *Fromson* involved both product claims (photographic printing plates) and method claims (the process for creating the printing plates). The Federal Circuit observed in dicta that, where the defendant's customers completed the final step of the patented process to create the patented plates, the defendant "cannot be liable for direct infringement with respect to those plates but could be liable for contributory infringement." 720 F.2d at 1568. But the Federal Circuit did not specify whether it believed the defendant might be liable for contributory infringement of the product claim (which the defendant's customers would have directly infringed by completing the plates, see note 1, *supra*) or of the method claim. *Ibid.*

infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary" to perform every step of the patented method. Pet. App. 9a. That assessment reflects a reasonable view of sound patent policy, but it does not justify expanding liability for inducement of infringement beyond the scope contemplated in Section 271(b). See *Microsoft*, 550 U.S. at 452, 456-458. Congress has previously enacted narrow additions to Section 271 to address perceived gaps in liability, see pp. 18-20, *supra*, and it can similarly address the relatively new problem of joint performance of patented methods if it believes a legislative response is needed.

Indeed, many of the considerations that the judges of the Federal Circuit and the parties have identified as relevant to the desirability of the Federal Circuit's rule are *competing* policy concerns that are most appropriately weighed by Congress. Those considerations demonstrate both the difficulty of crafting a framework for addressing collective-performance issues—it is not obvious that Congress would choose to extend the scope of liability under Section 271(b)—and the need for a congressional rather than a judicial solution.

First, because the Federal Circuit's approach substantially alters the doctrine and scope of patent infringement liability, a consequence of adopting that approach would be that parties who have ordered their conduct based on their understanding of the previously-established law may face unanticipated liability for inducing infringement. The expansion of liability under Section 271(b) may not be an undesirable consequence in itself; as discussed above, there is

no obvious policy reason not to impose liability on parties who seem, if anything, more culpable than the typical active inducers. But "courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community." *Festo Corp.* v. *Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002). Congress is best placed to weigh the effects on settled expectations that would result from broadening inducement liability against the benefits of closing the existing statutory gap—and to "craft[] more finely tailored rules where necessary." *Mayo Collaborative Servs.* v. *Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012).

Second, adopting the Federal Circuit's reading of Section 271(b) would not address every instance of collective performance of a process that might warrant liability and that is not already captured by the application of traditional vicarious-liability principles. See pp. 12-13, *supra*. For example, when two parties collaborate in the context of an arms'-length cooperative arrangement to perform the steps of a patented process, see *Golden Hour*, 614 F.3d at 1371, it would be difficult to say that one party rather than the other actively induces infringement, or that both parties actively induce each other to infringe. Because expanding Section 271(b) liability would not provide a complete solution to the problem of collective performance, Congress might prefer to consider other avenues.

Third, the parties, like the judges on the court of appeals, disagree about the extent to which patent applicants can protect themselves from collective use of patented methods through careful claim-drafting. See Pet. App. 96a (Linn, J., dissenting); *id.* at 44a

(Newman, J., dissenting); Pet. Br. 46; Br. in Opp. 32-33. The Federal Circuit has suggested that "[t]he concerns over a party avoiding infringement by arms-length cooperation can usually be offset by * * * structur[ing] a claim to capture infringement by a single party." *BMC Res.*, 498 F.3d at 1381. Courts have long recognized, moreover, that the burden of imprecisely drafted claims properly falls on the patent holder. See *Sage Prods., Inc.* v. *Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997). It is not clear, however, that drafting claims from the perspective of one actor is always possible. Some inventions may not be susceptible to framing from the perspective of a single actor or hub, and applicants are also constrained by the patentability requirements contained in Sections 102, 103, and 112 of the Patent Act. Assessing the extent to which careful claim-drafting can eliminate any potential enforcement gap, and the appropriate response if that solution is found to be inadequate, is a quintessentially legislative task.

Finally, Limelight argues (Br. 47-48) that expanding inducement liability is undesirable because collective-performance issues arise primarily in the context of "computer-implemented 'interactive' methods, many of them business methods embodying little if any technological innovation." *Id.* at 47. Questions about the relative strength or validity of the patented methods that are susceptible to collective performance, however, are distinct from issues concerning the proper construction of the rules governing infringement liability, which apply to *all* patents. It would be inappropriate for courts to allow doubts about the strength or validity of the patents at issue in collective-performance cases to drive their analysis of

the text of the Patent Act and the general liability principles it establishes. Congress, by contrast, can legitimately take those considerations into account in determining whether the potential enforcement gap that current law creates is of sufficient practical concern to warrant a legislative response.

* * * * *

Congress is better positioned than are the courts to address the empirical and policy questions implicated by collective performance of method patents. Under the Patent Act in its current form, however, Limelight can be held liable for "induc[ing] infringement" under Section 271(b) only if the induced conduct "infringes the patent" under Section 271(a). The court of appeals erred in expanding inducement liability beyond circumstances involving a culpable direct infringer.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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MARCH 2014

APPENDIX

35 U.S.C. 271 provides:

Infringement of patent

(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent

would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement; (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.

(e)(1) It shall not be an act of infringement to make, use, offer to sell, or sell within the United States or import into the United States a patented invention (other than a new animal drug or veterinary biological product (as those terms are used in the Federal Food, Drug, and Cosmetic Act and the Act of March 4, 1913) which is primarily manufactured using recombinant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques) solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products.

(2) It shall be an act of infringement to submit—

(A) an application under section 505(j) of the Federal Food, Drug, and Cosmetic Act or described in section 505(b)(2) of such Act for a drug claimed in a patent or the use of which is claimed in a patent,

(B) an application under section 512 of such Act or under the Act of March 4, 1913 (21 U.S.C. 151-

158) for a drug or veterinary biological product which is not primarily manufactured using recombinant DNA, recombinant RNA, hybridoma technology, or other processes involving site specific genetic manipulation techniques and which is claimed in a patent or the use of which is claimed in a patent, or

(C)(i) with respect to a patent that is identified in the list of patents described in section 351(*l*)(3) of the Public Health Service Act (including as provided under section 351(*l*)(7) of such Act), an application seeking approval of a biological product, or

(ii) if the applicant for the application fails to provide the application and information required under section 351(*l*)(2)(A) of such Act, an application seeking approval of a biological product for a patent that could be identified pursuant to section 351(*l*)(3)(A)(i) of such Act,

if the purpose of such submission is to obtain approval under such Act to engage in the commercial manufacture, use, or sale of a drug, veterinary biological product, or biological product claimed in a patent or the use of which is claimed in a patent before the expiration of such patent.

(3) In any action for patent infringement brought under this section, no injunctive or other relief may be granted which would prohibit the making, using, offering to sell, or selling within the United States or importing into the United States of a patented invention under paragraph (1).

(4) For an act of infringement described in paragraph (2)—

(A) the court shall order the effective date of any approval of the drug or veterinary biological product involved in the infringement to be a date which is not earlier than the date of the expiration of the patent which has been infringed,

(B) injunctive relief may be granted against an infringer to prevent the commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug, veterinary biological product, or biological product,

(C) damages or other monetary relief may be awarded against an infringer only if there has been commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug, veterinary biological product, or biological product, and

(D) the court shall order a permanent injunction prohibiting any infringement of the patent by the biological product involved in the infringement until a date which is not earlier than the date of the expiration of the patent that has been infringed under paragraph (2)(C), provided the patent is the subject of a final court decision, as defined in section 351(k)(6) of the Public Health Service Act, in an action for infringement of the patent under section 351(*l*)(6) of such Act, and the biological product has not yet been approved because of section 351(k)(7) of such Act.

The remedies prescribed by subparagraphs (A), (B), (C), and (D) are the only remedies which may be granted by a court for an act of infringement described in paragraph (2), except that a court may award attorney fees under section 285.

(5) Where a person has filed an application described in paragraph (2) that includes a certification under subsection (b)(2)(A)(iv) or (j)(2)(A)(vii)(IV) of section 505 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 355), and neither the owner of the patent that is the subject of the certification nor the holder of the approved application under subsection (b) of such section for the drug that is claimed by the patent or a use of which is claimed by the patent brought an action for infringement of such patent before the expiration of 45 days after the date on which the notice given under subsection (b)(3) or (j)(2)(B) of such section was received, the courts of the United States shall, to the extent consistent with the Constitution, have subject matter jurisdiction in any action brought by such person under section 2201 of title 28 for a declaratory judgment that such patent is invalid or not infringed.

(6)(A) Subparagraph (B) applies, in lieu of paragraph (4), in the case of a patent—

(i) that is identified, as applicable, in the list of patents described in section 351(*l*)(4) of the Public Health Service Act or the lists of patents described in section 351(*l*)(5)(B) of such Act with respect to a biological product; and

(ii) for which an action for infringement of the patent with respect to the biological product—

(I) was brought after the expiration of the 30-day period described in subparagraph (A) or (B), as applicable, of section 351(*l*)(6) of such Act; or

(II) was brought before the expiration of the 30-day period described in subclause (I), but which was dismissed without prejudice or was not prosecuted to judgment in good faith.

(B) In an action for infringement of a patent described in subparagraph (A), the sole and exclusive remedy that may be granted by a court, upon a finding that the making, using, offering to sell, selling, or importation into the United States of the biological product that is the subject of the action infringed the patent, shall be a reasonable royalty.

(C) The owner of a patent that should have been included in the list described in section 351(*l*)(3)(A) of the Public Health Service Act, including as provided under section 351(*l*)(7) of such Act for a biological product, but was not timely included in such list, may not bring an action under this section for infringement of the patent with respect to the biological product.

(f)(1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(g) Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product. A product which is made by a patented process will, for purposes of this title, not be considered to be so made after—

(1) it is materially changed by subsequent processes; or

(2) it becomes a trivial and nonessential component of another product.

(h) As used in this section, the term "whoever" includes any State, any instrumentality of a State, and any officer or employee of a State or instrumentality of a State acting in his official capacity. Any State, and any such instrumentality, officer, or employee, shall be subject to the provisions of this title in the same manner and to the same extent as any nongovernmental entity.

(i) As used in this section, an "offer for sale" or an "offer to sell" by a person other than the patentee, or any designee of the patentee, is that in which the sale will occur before the expiration of the term of the patent.

AMICUS CURIAE BRIEF

No. 12-786

RECORD AND BRIEFS

Supreme Court, U.S.
FILED
FEB 27 2014
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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. and THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICI CURIAE* ALTERA CORPORATION, HTC CORPORATION, HTC AMERICA, INC., SMUGMUG, INC. AND WEATHERFORD INTERNATIONAL IN SUPPORT OF PETITIONER

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STATEMENT OF INTEREST OF *AMICI CURIAE*[1]

Altera Corporation is a publicly traded company headquartered in San Jose, California. Altera, founded in 1983, is the pioneer of programmable logic solutions, enabling system and semiconductor companies to rapidly and cost effectively innovate, differentiate, and win in their markets. HTC Corporation is a publicly traded company headquartered in Taiwan. Its U.S. subsidiary, HTC America, Inc., is based in Bellevue, Washington. HTC produces powerful smartphones that continually push the boundaries of innovation to provide true mobile freedom. SmugMug, Inc. is a privately-held family business located in Mountain View, California that provides customers (both amateur and professional photographers) a platform for uploading photographs to a virtual gallery. Weatherford International is a publicly traded company with locations around the world. It is one of the largest global providers of advanced products and services that span the drilling, evaluation, completion, production and intervention cycles of oil and natural gas wells.

Amici are innovative leaders in a variety of technology fields. They pursue patent protection for their technology, endeavor to respect the intellectual property rights of others, and support a strong patent system in which patent

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1. In accordance with Supreme Court Rule 37.6, amici state that this brief was not authored, in whole or in part, by counsel for a party, nor did such counsel or a party make a monetary contribution intended to fund the preparation or submission of this brief. No person other than the amici or their counsel made any such monetary contribution. The parties have consented to the filing of this brief. Letters reflecting consent by both parties have been filed with the Clerk of Court.

claims truly serve their important public notice function by allowing a business to ascertain whether any planned product or service is within or outside of claim boundaries. Each of the amici can reasonably evaluate the business risks associated with its current or planned products or services, but that task becomes speculative and unfair if it also needs to assess risk as its products or services flow downstream to unrelated and multiple third parties. Simply stated, *Akamai* has significantly undermined the notice function of claims and substantially impacted the ability of amici to make reasoned business decisions. Amici have a strong interest in having the Court restore the business predictability that existed prior to *Akamai*.

SUMMARY OF ARGUMENT

The per curiam majority opinion in *Akamai* made a fundamental and improper revision to patent law, eliminating the statutory requirement that inducement infringement liability can only be triggered under §271(b) if an actor is liable for direct infringement under §271(a). So long as multiple actors, each independently performing steps in the public domain, cumulatively perform all of the steps in a method patent claim, a third party can be liable for inducement infringement. *Akamai* is premised on the perceived "unfairness" of allowing a hypothetically "guilty" party to escape liability by intentionally dividing the steps of a method claim with or among innocent third party actors. *Akamai*, however, ignores the existing ways to hold such guilty parties responsible without unfairly punishing businesses which have relied on the public notice function of patent claims that are not crafted to capture direct infringement liability. *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1348-51 (Fed. Cir. 2012) (en banc) (Linn, J., dissenting).

The majority in *Akamai* seemingly offer the "intent" component of induced infringement under §271(b) as a shield for an innocent actor which fairly acts blissfully unaware of any patent issue. *Akamai*, 692 F.3d at 1309 n.1. Yet, the intent component provides no practical protection in view of even pre-*Akamai* decisions holding that service of a complaint for induced infringement is sufficient to provide the requisite knowledge of the asserted infringement, and thus meeting the intent threshold.

Parties with no pre-suit awareness of a patent, and long selling a product or offering a service that does not itself infringe a method claim, now find themselves defending against accusations that they are liable for inducing infringement merely for not ceasing their longstanding business conduct when they were sued. This is the post-*Akamai* reality even though such parties began the accused activity in good faith and promptly responded to complaint-based infringement accusations by pursing good faith defenses of patent invalidity and/or non-infringement. The resulting costs (both monetary and business distraction) to protect existing investments made in good faith are an unfair penalty on the business community. The knowledge of these known costs is also a powerful negotiating weapon, particularly in patent infringement suits brought by patent plaintiffs with no assets other than the asserted patent (commonly known as "non-practicing entities").

Petitioner Limelight fairly explains the fatal legal flaws in the majority *Akamai* opinion, and amici will not repeat those arguments. Suffice it to note that in dramatically and impermissibly changing the law, *Akamai* has shifted enormous risk onto businesses (and

hence the public)—all because a few patent owners have had litigation-induced second thoughts about the claims they sought and obtained from the Patent & Trademark Office. Businesses, including amici, are left to speculate at their peril about how their products or services might be used by multiple third parties outside of an agency relationship. *Akamai* significantly undermines the ability of businesses to make informed business decisions as to whether to invest in new products or services. The holding in *Akamai* reflects bad public policy and interferes with predictable competition, in addition to being contrary to proper construction of 35 U.S.C. § 271.

ARGUMENT IN SUPPORT OF LIMELIGHT

The en banc decision of the Federal Circuit undermines the notice function of claims by imposing inducement liability even in the absence of any direct infringement liability. Moreover, the "intent" component of inducement is an illusory shield for an innocent actor accused of induced infringement for unrelated multi-actor conduct. In creating new law to protect a few patent owners from intentional claim drafting decisions, the Federal Circuit has interfered with the ability of businesses to make reasoned investment decisions and also subjected businesses to unpredictable lawsuits based on independent third party activity.

I. *AKAMAI* UNDERMINES THE IMPORTANT PUBLIC NOTICE FUNCTION OF CLAIMS AND ENCOURAGES ABUSIVE INFRINGEMENT CLAIMS

A. Supreme Court and Federal Circuit Decisions Identify Public Notice as an Important Function of Patent Claims

This Court has recognized the important public notice function of patent claims since the 1800s. In *Merrill v. Yeomans*, 94 U.S. 568 (1877), in the course of construing the one claim in issue, the Court announced:

> The developed and improved condition of the patent law, and of the principles which govern the exclusive rights conferred by it, leave no excuse for ambiguous language or vague descriptions. **The public should not be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights.** The genius of the inventor, constantly making improvements in existing patents,—a process which gives to the patent system its greatest value,—should not be restrained by vague and indefinite descriptions of claims in existing patents from the salutary and necessary right of improving on that which has already been invented.

Id. at 573 (emphasis added). Nine years later, the Court reiterated the important public interest served by the requirement of precisely defined claims. *See White v. Dunbar*, 119 U.S. 47 (1886). The *White* Court observed

that "[t]he claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; **and it is unjust to the public**, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *Id.* at 52 (emphasis added); *accord McClain v. Ortmayer*, 141 U.S. 419, 424 (1891) (object of statutory language obligating inventors to "particularly point out and distinctly claim" is "to secure to [the patentee] all to which he is entitled, **but to apprise the public of what is still open to them**") (emphasis added).

This important public policy continues to be reflected in more recent decisions. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), identified "the importance of uniformity in the treatment of a given patent among the reasons for allocating all issues of construction to the court." *Id.* at 390. As support for this premise, the *Markman* Court quoted *Merrill* for the public notice role served by claims, stating that otherwise, "[t[he public [would] be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights." *Id.* (alterations in original) (quoting *Merrill*, 94 U.S. at 573); *see also Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 30 (1997) (expressing confidence that "the doctrine [of equivalents] will not vitiate the central functions of the patent claims themselves.").

Indeed, the Federal Circuit has recognized that one important reason for this public policy is so that a business can determine from the patent claims its potential for liability. *See, e.g., IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (a claim

combining two separate statutory classes of invention "is not sufficiently precise to provide competitors with an accurate determination of the 'metes and bounds' of protection involved," because "a manufacturer or seller of the claimed apparatus would not know from the claim whether **it might also be liable . . . because a buyer or user** of the apparatus later performs the claimed method of using the apparatus.") (Emphasis added.) Concern for this important policy, although directly implicated, is absent from the majority opinion in *Akamai*.

B. Public Notice is Important in the Real World

One critical purpose of the public notice function of claims is so that a business about to invest significant resources in a new product or service can reasonably deal with the patent landscape as part of an overall risk-reward evaluation. *IPXL Holdings*, 430 F.3d at 1384. Indeed, this is a routine and longstanding business practice.[2] Such an analysis is difficult even when it is limited to the manufacturer's own conduct.[3] Imposing on a business the additional obligation to speculate correctly about potential future uses by a third party buyer or user is unreasonable and unfair. *Cf. id.* The policy implicated by this facet of public notice is illuminated by a simple

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2. "[B]efore a manufacturer takes steps to put a new product on the market or otherwise undertakes the expense of using in-plant technology for commercial purposes, a search will frequently be made to determine whether there may be an infringement of a U.S. patent or patents." E. Kintner & J. Lahr, *An Intellectual Property Law Primer* 61 (2d ed. 1982).

3. "Patent attorneys probably have nightmares about such topics as these . . . ." *Id.*

question: Who should bear the burden of risk when no one party is liable for direct infringement—the patentee, who had an opportunity to craft the claim in a way to cover single-actor liability, or the public (*viz.*, competitors)? The analysis of the relative burdens imposed on the public and the patentee in this context dictates the answer to that policy question.[4]

It often happens that a company sells a product, or offers a service, which by itself does not infringe, to third parties for their own unrestricted use or resale. Amici offer four real world examples, involving (1) "smartphones," (2) integrated circuits, (3) modern "cloud" computing services, and (4) chemicals. In the case of "smartphones," third parties often develop (or acquire) and offer their own "apps" to "smartphone" end users. The end users, in turn, independently select which (if any) of these "apps" to add to their "smartphones." Integrated circuits sometimes are sold in an unprogrammed state and are subsequently configured by third-party users of the devices. Other integrated circuits are sold pre-programmed to perform a spectrum of generic functions and are incorporated into larger systems by third-party customers. Many companies in the computing services field offer generic services such as data processing, data storage and/or retrieval, and data transmission. Other

4. Several amici involved in the en banc decision, including most of those on this brief, showed the Federal Circuit how easily Akamai's claims could have been transformed to capture single actor liability. Amici would not be surprised if Akamai had elected to ignore the potential divided infringement issue and draft its claims broadly to create a much larger base for potential damages in licensing or settlement negotiations. That strategy was a popular topic on the CLE circuit for a number of years.

companies (*e.g.*, end users) write software programs that may perform tasks ranging from behind-the-scene computer management to manipulation of specific data, using the infrastructure or generic services offered by the computing services provider. Third-party purchasers of chemicals often maintain their planned uses of the materials, and/or the details of such uses, as trade secrets. *See, e.g.*, E. Kintner & J. Lahr, *An Intellectual Property Law Primer* 139-41 (2d ed. 1982). As a result, suppliers often will not have information on which they can determine whether the third-party purchaser's use may implicate the supplier in a claim for infringement.

In each instance, amici and other service providers or vendors cannot reasonably assess their risk of being sued for infringement based on unknown or independent conduct of multiple third parties which need not communicate to the service provider or vendor the details of their uses of the product or services. Yet that is exactly the unquantifiable new burden imposed on amici and others by the holding in *Akamai*. Simply stated, it is unfairly burdensome to impose upon amici, or upon any vendor or service provider, the burden of predicting when, and under what circumstances, its non-infringing conduct might be transformed into infringing conduct as an unintended consequence of an arms-length transaction with one or more independent actors.

By contrast, only minimal burden is imposed on a patentee to draft claims in such a way that they do not implicate divided infringement. A patentee can ordinarily structure a claim to create infringement liability for single-party conduct—if that is the patentee's real goal. *See Mark A. Lemley et al., Divided Infringement*

Claims, 33 AIPLA Q.J. 255, 272-75 (2005). The majority in *Akamai*, however, simply ignored this least-burdensome solution. The answer to the question posed above is clear: Patent owners have a simple and cost-efficient way to avoid the need for the convoluted, unpredictable and legally inappropriate infringement theory created by the *Akamai* majority.

The *Akamai* majority apparently believed that the intent component of inducement infringement liability would protect innocent businesses against the increased legal exposure their new law created. As explained below, even pre-*Akamai* Federal Circuit decisions, ignored by the en banc majority, show that such protection is illusory.

C. The Intent Component of Inducement Liability is an Illusory Shield Against Litigation Gamesmanship, Abuse and Inequity

The majority opinion contrasts inducement and direct infringement liability. In pertinent part, it explains that unlike direct infringement, induced infringement is not a strict liability tort. The accused inducer must act with knowledge that the induced acts constitute patent infringement. *Akamai*, 692 F.3d at 1308. This intent component is the apparent linchpin for the majority's subsequent reliance on the aiding and abetting provision in the Federal Criminal Code, *id.* at 1311-12, and on the rule in the First Restatement of Torts imposing liability of inducement of a tort even if the person being induced is unaware that its act is injurious. *Id.* at 1313. In short, the majority's perceived safety net is premised on the assumption that only those with specific intent to infringe a patent can be potentially liable for inducement

infringement. Conversely, those lacking the requisite bad intent allegedly are not at risk for inducement infringement liability.

Insofar as the *Akamai* majority perceived the "intent" component of inducement to be a fair and meaningful safeguard for innocent conduct, it is wrong. Consider the common situation where the first notice a business has of a patent is when it is served with a patent infringement complaint. One might reasonably believe that in the absence of pre-suit knowledge, this business could not be liable for inducement infringement – but one would be wrong in so thinking. Pre-*Akamai* cases held that complaints for inducement infringement stated valid causes of action even though the accused party's first notice of the patent (and thereby "knowledge") was not until service of the complaint. *See, e.g., In re Bill of Lading Transmission and Processing System Patent Litigation*, 681 F.3d 1323, 1342 (Fed. Cir. 2012); *accord Intellect Wireless Inc. v. Sharp Corp.*, No. 10 C 6763, 2012 U.S. Dist. LEXIS 31669, at *33 (N.D. IL. March 9, 2012); *Walker Digital, LLC v. Facebook, Inc.*, 852 F. Supp.2d 559, 565 (D. Del. 2012); *Symantec Corp. v. Veeam Software Corp.*, 2012 U.S. Dist. LEXIS 75729, at *15 (N.D. CA. May 31, 2012). Post-*Akamai* cases continue to apply this trap for the unwary. *See, e.g., Pacing Techs., LLC v. Garmin Int'l, Inc.*, No. 12-cv-01067, D.I. 55, at 3-5 (S.D. Cal. Feb. 5, 2013); *Potter Voice Techs., LLC v. Apple, Inc.*, No. 12-cv-01096 (D. Colo. March 29, 2013).

Intent is an illusory shield if an innocent business suddenly becomes "guilty" because, when served with a complaint, the business does not immediately cease the allegedly improper activity, but instead engages counsel to

conduct an investigation and mounts a good faith defense to protect the significant business investment already incurred against an inducement claim from out of nowhere. That *Akamai* consequence is unfair, likely unexpected by the majority, and creates new opportunities for litigation gamesmanship.

Business risk was manageable when inducement required that a single actor be liable for direct infringement. *Akamai* has multiplied the burdensome nature of the risk by expanding liability to encompass a party which had no knowledge of a patent prior to the filing of suit, where no entity is liable for direct infringement, and where the ultimate issue of intent is a fact not easily resolved on summary judgment. *See, e.g., Kinetic Concepts, Inc. v. Blue Sky Medical Group, Inc.*, 554 F.3d 1010, 1024-25 (Fed. Cir. 2009) (affirming denial of JMOL on intent); *Intellect Wireless*, 2012 U.S. Dist. LEXIS 31669 (E.D. IL. 2012) (granting summary judgment of no direct infringement, but denying summary judgment of no inducement infringement based on lack of intent evidenced by the defense in the case); *Toshiba Corp. v. Imation Corp.*, No. 09-cv-305-slc at pp. 14-19 (W.D. Wis. December 31, 2013) (granting in part and denying in part JMOL regarding induced infringement).

Intent is not an appropriate dividing line and the *Akamai* majority badly skewed the risk-reward balance in discarding the longstanding requirement of direct liability as a condition precedent to inducement liability. The *Akamai* majority concocted this dramatic change to obviate an unsupported (and likely unsupportable) problem, namely that this change was needed because bad actors were intentionally dividing up method steps to avoid direct infringement.

Akamai inducement law also created opportunities for significant litigation mischief that will further burden businesses, all as a consequence of shifting the burden of poor claim drafting or intentional (but regretted) claim decisions from the patent owner to the public. This change allows patent plaintiffs, often shell entities holding no asset except the asserted patent, a unique opportunity to impose a toll on legitimate businesses that otherwise will be required to waste the cost of litigation, and divert executive time and other company resources, to mount an appropriate defense. In pertinent part, patent owners often propose in litigation unexpected (and ultimately unsupportable) claim construction positions. *Cf. Markman*, 517 U.S. at 384 (confirming claim construction is a question of law for the court.)

Eliminating the requirement that some entity is liable for directly infringing makes it that much more difficult to identify potential patent infringement risks before a business invests substantial resources in a new product or service. As the Federal Circuit elsewhere explained, in the real world, "a manufacturer or seller of [a] claimed apparatus would not know from the claim whether it might also be liable . . . because a buyer or user of the apparatus later performs the claimed method of using the apparatus." *IPXL Holdings*, 430 F.3d at 1384.

Moreover, patent owners have already begun to assert inducement liability under § 271(b) in lieu of contributory infringement under § 271(c) against sellers of a material or apparatus for use in practicing a patented process. Liability for contributory infringement under 35 U.S.C. § 271(c) only arises if the product being sold by the accused contributory infringer is "a material part of the invention,"

the accused party knows it "is especially made or especially adapted for use in an infringement of such patent," and if the product is "not a staple article or commodity of commerce suitable for substantial noninfringing use." *Id.* Furthermore, liability for contributory infringement requires that an actor be liable for direct infringement. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961). The new *Akamai* cause of action is already becoming popular, since it allows plaintiffs to avoid pleading and proving the extra requirements of § 271(c) and in the absence of any person liable for direct infringement. The intent component of inducement infringement provides no meaningful protection against litigation mischief.

II. CONCLUSION

In view of the foregoing, *amici curiae* request that the en banc decision in *Akamai* be reversed.

February 28, 2014

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AMICUS CURIAE BRIEF

RECORD
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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Writ of Certiorari To The United States Court of Appeals For The Federal Circuit

BRIEF OF THE AMERICAN BAR ASSOCIATION AS *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY

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QUESTION PRESENTED

Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no one has committed direct infringement under 35 U.S.C. § 271(a).

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INTEREST OF THE *AMICUS CURIAE*[1]

The American Bar Association ("ABA") respectfully submits this brief in support of neither party. The ABA requests that this Court reject the use of 35 U.S.C. § 271(b) to determine indirect infringement in multi-actor situations where no entity is found to have committed acts constituting direct infringement. Instead, the ABA asks this Court to construe 35 U.S.C. § 271(a) to permit a finding that one or more entities are liable for direct infringement where, in carrying out the steps of a patented multi-step process, one entity directed or controlled other entities in performing steps that it did not perform, or multiple entities acted in concert to perform or to direct or control the performance of, all of the steps of the process as part of a common design or purpose.

The ABA is the largest voluntary professional membership organization and the leading organization of legal professionals in the United States. Its nearly 400,000 members come from all fifty states and other jurisdictions, and include

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[1] This brief has not been authored in whole or in part by counsel for a party. No person or entity, other than Amicus, its members, or its counsel, has made a monetary contribution to the preparation or submission of this brief. The Petitioner has given a blanket consent to the filing of *amicus curiae* briefs, which is on file with the Court. Respondents have given written consent to the filing of this brief, true and correct copies of which are submitted herewith.

attorneys in private law firms, corporations, non-profit organizations, government agencies, and prosecutor and public defender offices. They also include judges, legislators, law professors, law students, and non-lawyer "associates" in related fields.[2]

The ABA's Section of Intellectual Property Law ("IPL Section") is the world's largest organization of intellectual property professionals. Its approximately 24,000 members represent patent owners, accused infringers, individual inventors, large and small corporations, research institutions, and public and private colleges and universities, across a wide range of technologies and industries. Formed in 1894, the IPL Section works to promote the development and improvement of intellectual property law and takes an active role in the consideration of proposed legislation, administrative rule changes and international efforts. The Section also presents resolutions to the ABA House of Delegates for adoption as ABA policy.[3] These policies then provide

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[2] Neither this brief nor the decision to file it should be interpreted to reflect the views of any judicial member of the ABA. No member of the Judicial Division Council has participated in the adoption of or endorsement of the positions in this brief. This brief was not circulated to any member of the Judicial Division Council prior to filing.

[3] Only recommendations adopted by vote of the ABA's House of Delegates, but not the accompanying reports, become ABA policy. The House of Delegates is composed of 560 delegates representing states and territories, state and local bar

Continued on following page

a basis for the preparation of ABA *amicus curiae* briefs, which are filed primarily in this Court and the Court of Appeals for the Federal Circuit.

When the Federal Circuit issued its consolidated opinion in *Akamai Technologies, Inc. v. Limelight Networks, Inc.* and *McKesson Technologies, Inc. v. Epic Systems Corp.*, 692 F.3d 1301 (Fed. Cir. 2012) (en banc), the IPL Section formed a diverse committee to develop a consensus position on the question of whether one or more actors should be held liable for the acts of another when all the steps of a patented process have been collectively performed. Concluding that this question will have profound consequences for patent law and beyond, the IPL Section presented, and the ABA House of Delegates adopted, its recommendations as Resolution #101B (policy adopted February 2013). That Resolution and its accompanying Report are printed in full in the Appendix.

The ABA takes no position as to which party should prevail in the case presently before the Court. The ABA, instead, submits this brief to assist the Court as it considers the principles that should

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Continued from previous page
associations, affiliated organizations, sections and divisions, ABA members and, among others, the Attorney General of the United States. *See* ABA General Information, *available at* http://www.americanbar.org/groups/leadership/delegates.html, and ABA *amicus* brief information, *available at* http://www.americanbar.org/amicus.

govern the issues of divided and induced infringement.

SUMMARY OF ARGUMENT

Today's business world is driven in large part by technology and interdependence, and the number of method patents filed in this environment will continue to increase, especially as Internet usage continues to expand. The ABA submits that the induced infringement standard the Federal Circuit majority adopted in *Akamai* is not appropriate for addressing this reality. Accordingly, the ABA respectfully urges this Court to reject the Federal Circuit's expansive interpretation of § 271(b) and, instead, construe § 271(a) to permit a finding of direct infringement where multiple actors act in concert to perform, or to direct or control the performance of, all of the steps of a method patent as part of a common design or purpose.

ARGUMENT

A. Where Patented Methods May Be Performed By Multiple Actors, Clarification Is Needed As To The Law Of Induced Infringement To Reflect The Realities Of Technology And Patent Practice Today.

As the Federal Circuit majority stated in *Akamai*: "It would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes

further by actually performing some of the steps himself." 692 F.3d at 1309. In *Akamai*, the en banc Federal Circuit confronted the increasingly common situation in fields ranging from health diagnostics, medicine, financial services, and oil drilling, to the complex networks of today's information technology markets, where many innovative patented methods, by their very nature, involve two or more actors. This occurs either because the practical reality of the industry is such that different steps will be performed by different entities (e.g., a test or process performed by a subcontracted lab as part of a patient's treatment regimen), or because the method is directed to an interaction of two actors (e.g., a business method that involves facilitating a customer's performance of an action).

In resolving the *Akamai* case, the Federal Circuit confronted its own precedent, under which a party that performed some, but not all, of the steps of a method patent could not be liable for direct infringement under 35 U.S.C. § 271(a).[4] In essence, Federal Circuit precedent limited liability for direct infringement under § 271(a) "to those who practice each and every element of the claimed invention." *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d

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[4] Section 271(a) provides: "Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent."

1373, 1381 (Fed. Cir. 2007). Although the court acknowledged that a "party cannot avoid infringement . . . simply by contracting out steps of a patented process to another entity," 498 F.3d at 1381, it held that liability arises only if the accused entity "controls or directs" the performance of all of the steps. *Id.* The court then relied on *BMC* in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed Cir. 2008), to reverse a jury's finding of liability under § 271(a), concluding that, "where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, *i.e.*, the 'mastermind'." 532 F.3d at 1329. Finally, in *Golden Hour Data Systems, Inc. v. emCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010), the court held that two co-equal parties could not be liable for divided infringement under § 271(a) because neither one "controlled or directed" the other, and affirmed a finding of no infringement, even though the accused companies had formed a strategic alliance, enabled their programs to work together, and collaborated to sell the two programs as a unit.

These precedents for direct infringement under § 271(a) did not reach petitioner Limelight's conduct. Nevertheless, the majority characterized the situation as one where "the patentee's rights are plainly being violated by the actors' joint conduct." *Akamai*, 692 F.3d at 1306. The *Akamai* majority then expanded the reach of 35 U.S.C. § 271(b) to

allow liability for induced infringement where one entity performs some steps of a method claim and, with full knowledge of the patent, induces another entity to perform the remaining steps—but without requiring a predicate finding, as required under Federal Circuit precedent, that there was conduct constituting direct infringement under § 271(a).

The ABA agrees that the issue of multiple entities who act together to infringe a patent must be addressed. The ABA respectfully asserts, however, that it should not be addressed by adopting an entirely new rule of induced infringement under § 271(b) but, rather, by clarifying the law of direct infringement under § 271(a). *Akamai's* new construction of § 271(b) has engendered and will continue to engender uncertainty in multi-actor relationships. Patent holders or their assignees will be able to expand the range of potentially liable actors and inject new and potentially disruptive risks into established business arrangements. The Federal Circuit's intent-based inducement standard, coupled with the broad range of conduct that may constitute "inducing" infringement, also will present factual disputes that will make pretrial resolution of infringement cases unlikely.

Further, the ABA submits that, under the Federal Circuit's constrained standard for direct infringement under § 271(a), it is relatively easy for an entity to structure its business dealings in such a way that will immunize itself and others acting in

concert with it from liability for infringement—for example, by disclaiming the existence of agency or by contract drafting that eliminates the risk that one entity can be found to have "directed" or "controlled" the other.

The ABA also notes that if this Court rejects the Federal Circuit's expansion of § 271(b), the question of divided infringement will remain for multiple actor cases, including in this case on remand.

For all of these reasons, the ABA respectfully requests that this Court clarify the standards for determining when an actor or actors should be liable for direct infringement under § 271(a) in multiple actor cases.

B. For Addressing Multiple Actor Infringement Cases, The ABA Offers Four Conclusions Developed By The ABA's IPL Section.

In considering whether a finding of indirect infringement, whether through active inducement of infringement under § 271(b) or contributory infringement under § 271(c), should require a predicate finding of direct infringement by at least one entity that is liable as a direct infringer, the ABA suggests that four conclusions developed by the diverse members of the ABA's IPL Section, and adopted as policy by the ABA, may be of assistance. Each of these conclusions is discussed below and set out in the Appendix.

The four conclusions are:

(1) Direct infringement may be found on the part of a single entity that does not perform all the steps of a patented process, if that entity directs or controls others who perform all of the process steps that the directing/controlling entity itself does not perform.

Under Conclusion No. 1, a single entity would be liable for direct infringement under § 271(a) if it directs or controls others who perform all of the steps of a patented method, even in the absence of an agency or contractual relationship. That is, a finding of "direction or control" for purposes of establishing liability under § 271(a) would take into account the totality of the facts and circumstances, including, *inter alia*: the nature of the relationship between the actors; whether the actors have an express or implied agreement among themselves; whether one actor supplies another actor with the means, instructions and know-how to complete the infringement; the degree of control or direction one actor maintains over another; and whether a common actor directs the acts alleged to constitute the infringement.

(2) Direct infringement may be found on the part of multiple entities that act in concert to perform, or to direct or control the performance of, all of the

steps of a patented process, as part of a common design or purpose of such entities for carrying out the process.

The ABA submits that patent law needs to address instances of direct infringement committed by joint venturers and other circumstances involving concerted action where one actor does not necessarily "direct" or "control" the other. The Federal Circuit's "single entity" rule permits entities to collaborate with respect to a patented method yet escape liability for infringement. *See, e.g., Golden Hour Data Systems*, 614 F.3d 1367 (two parties not found liable for divided infringement under § 271(a) where neither "controlled or directed" the other, even though they formed a strategic alliance, enabled their programs to work together, and collaborated to sell the two programs as a unit). Such a result offends basic notions of justice and under-protects patent holders' rights to "exclude others from making, using, offering for sale, or selling the invention." 35 U.S.C. § 154(a)(1). And the incentive to invent is weakened where there is no remedy for direct infringement, even though every element set forth in a patent claim has been satisfied by multiple entities acting in concert.

Conclusion No. 2 thus addresses instances involving concerted action by multiple entities acting as part of a common design or purpose for carrying out the claimed process. That is, this conclusion would permit liability to flow from a common

enterprise, design, or purpose, irrespective of the nature of the parties' relationships with each other (e.g., despite the absence of a contract or agency relationship).

(3) In fact situations involving multiple entities, a finding of direct infringement does not necessarily require the finding of an agency relationship (or a contractual relationship) between the directing/controlling entities or those that act in concert as part of a common design or purpose, and other entities.

Conclusion No. 3 specifically addresses the Federal Circuit's stringent "agency or contractual obligation" standard, under which an actor may easily immunize itself against claims of divided infringement through, for example, contract drafting. As this Court has recognized, infringement of a patent is "essentially a tort." *See Carbice Corp. of America v. American Patents Dev. Corp.*, 283 U.S. 27, 33 (1931). Moreover, this Court assumes that, when Congress creates a tort action, it does so against the backdrop of "ordinary tort-related" rules. *Meyer v. Holley*, 537 U.S. 280, 285 (2003). Adopting a more complete tort-centered approach to direct infringement under § 271(a)—one that recognizes not only traditional notions of vicarious liability like agency and contract, but also circumstances wherein entities act in concert

or pursuant to a common design or plan—would obviate any need for a new doctrine of induced infringement under § 271(b).

(4) When directing/controlling entities are liable as direct infringers, a directed/controlled entity that is merely acting under the direction or control of the directing/controlling entities will not itself be liable as an infringer.

Finally, Conclusion No. 4 recognizes that the increasing ease with which multi-step method patents may be subdivided among multiple entities greatly increases the risk that unwitting actors may be involved in an infringement. Accordingly, the ABA does not advocate liability for an entity that merely acts under the direction or control of another. To the contrary, liability should not be imposed unless an entity is part of a collaborative plan to jointly perform the steps of a method patent.

CONCLUSION

For the reasons set forth above, the ABA respectfully urges this Court to reject the Federal Circuit's expansive interpretation of § 271(b). The ABA urges this Court to construe § 271(a) to permit findings of liability for direct infringement where, in carrying out the steps of a patented multi-step process, (a) one entity directed or controlled other entities in performing steps that it did not perform,

or (b) multiple entities acted in concert to perform, or to direct or control the performance of, all of the steps of the process as part of a common design or purpose.

Respectfully submitted.

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March 3, 2014

AMERICAN BAR ASSOCIATION

ADOPTED BY THE HOUSE OF DELEGATES

FEBRUARY 11, 2013

RESOLUTION

RESOLVED, That the American Bar Association supports clarification of the standards for finding direct infringement under 35 U.S.C. § 271(a) for a patent directed to a multiple-step process in the fact situation where separate entities collectively, but not individually, perform the required steps of the patented process, as follows—

(1) direct infringement may be found on the part of a single entity who does not perform all the steps of a patented process, if such entity directs or controls others who perform all of the process steps that the directing/controlling entity itself does not perform;

(2) direct infringement may be found on the part of multiple entities who act in concert to perform, or to direct or control the performance of, all of the steps of a patented process, as part of a common design or purpose of such entities for carrying out the process;

(3) a finding of direct infringement under (1) or (2) does not require the finding of an agency relationship or other contractual relationship between the entities; and

(4) an entity who is merely acting under the direction or control of the directing/controlling entity will not itself be liable as an infringer.

FURTHER RESOLVED, That the American Bar Association supports the requirement that indirect infringement, through active inducement of infringement under 35 U.S.C. § 271(b) or contributory infringement under 35 U.S.C. § 271(c), requires a predicate finding of direct infringement by at least one entity who is liable as a direct infringer.

REPORT

The Section of Intellectual Property Law recommends that the House of Delegates approve this Resolution, which would provide policy in support of an Association amicus curiae brief in the cases of *Akamai Technologies v. Limelight Networks* (Appeal Nos. 2009-1372, -1380, -1416 and -1417) and *McKesson Technologies v. Epic Systems* (Appeal No. 2010-1291), or in other litigation presenting issues regarding when the actions of multiple actors may be combined to support a finding of infringement of a process patent. As discussed below, the federal court resolution of these issues will have profound consequences that go far beyond patent law.

The Problem of Patent Infringement by Multiple Actors ("Divided Infringement")

Situations arise where two or more actors collectively perform all the steps of a patented process, but no single legal entity performs them all. This is known as "divided" or "joint" infringement. Cases of divided infringement are problematic, because a patent plaintiff must prove that *each and every step* of the patented process has been performed by a

defendant. [1] Divided infringement presents a situation where a patented process has been performed, yet no single defendant performed each and every step. The problem of divided infringement has become particularly common in recent years due to the advent of the Internet, which allows computerized processes to become distributed both spatially and among multiple entities. The problem arises in many different technological fields, however, from oil drilling to health diagnostics and medicine. A basic question presented by divided infringement is "under what circumstances may one actor be held directly liable for the acts of another?"

The legal standard for holding entities liable for divided infringement of process claims is unsettled. In *BMC Resources v. Paymentech, L.P.*, the Federal Circuit announced that joint liability for divided infringement exists under § 271(a) if one entity "controls or directs" the acts of another entity. 498 F.3d 1373, 1380 (Fed. Cir. 2007). (*BMC Resources* further held that infringement under § 271(b) could

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[1] In the simplest example of infringement, a single defendant directly performs every step of the patented process. This is "direct infringement," and is codified in 35 U.S.C. § 271(a). "Indirect infringement" arises through actively inducing someone else to engage in infringement under 35 U.S.C. § 271(b) or contributing materially to infringement by someone else under 35 U.S.C. § 271 (c). Historically, a finding of indirect infringement under §§ 271(b) or (c) has required a predicate act of direct infringement under § 271(a). Direct and indirect infringement differ in that direct infringement is a strict liability tort, while indirect infringement requires knowledge of the patent and intent to perform the acts that constitute infringement.

not exist unless there was an underlying act of direct infringement by a single entity, thereby barring claims of divided infringement under § 271(b).) But in subsequent cases, the Federal Circuit clarified that "control or direction" referred only to "agency or contractual obligation." Using that narrow interpretation, the Federal Circuit has repeatedly overturned jury findings of infringement that were based on plain language understandings of the phrase "control or direction" (e.g., that supplying directions to users is "direction"). In fact, to the best of the Section's knowledge, the Federal Circuit has never affirmed *any* jury finding of divided infringement, making it increasingly unclear whether there is any way to enforce claims to processes that may be performed in a divided manner.

The Federal Circuit's repeated reversal of jury verdicts of liability for divided infringement has produced increasing dissent—both within the Federal Circuit and the patent bar—over whether the "control or direction" test is overly stringent, with some arguing that the test effectively abrogated certain process patents by making them impossible to enforce. The U.S. Court of Appeals for the Federal Circuit ("the Federal Circuit.") recently reviewed these issues *en banc* in two consolidated appeals: *Akamai Technologies v. Limelight Networks* (Appeal Nos. 2009-1372, -1380, -1416 and -1417) (*"Akamai"*) and *McKesson Technologies v. Epic Systems* (Appeal No. 2010-1291) (*"McKesson"*).

In the en banc *Akamai/McKesson* opinion, a bare majority of the Federal Circuit left in place the stringent "agency or contractual obligation" rule, but

expanded application of § 271(b) to allow liability where one entity performs some steps of a claim and—with full knowledge of the patent—induces another party to perform the remaining steps without finding any party liable for direct infringement.[2] The majority noted that "[i]t would be a bizarre result to hold one person liable for inducing another to perform all the steps of a method claim, but to hold harmless one who goes further by actually performing one of the steps himself." By requiring plaintiffs to satisfy the elements of § 271(b)—which requires proof of knowledge of the patent—the majority addressed concerns that the "control or direction" test provided an easy route for avoiding § 271(b)'s intent requirements.

But the en banc review in *Akamai/McKesson* also produced two dissents. Both dissents argued that indirect infringement under § 271(b) requires an act of direct infringement by a single entity. Four of the dissenting judges, led by Judge Linn, argued to retain the strict "agency or contractual obligation" interpretation of the "control or direction" rule. One, Judge Newman, argued that the "control or direction"

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[2] Technically, the majority opinion in *Akamai/McKesson* declined to address whether "control or direction" should be limited to formal agency or contractual obligation, holding the issue was mooted by its ruling that § 271(b) could support a claim against divided infringement. But it affirmed in dicta that "the trial court correctly held that Limelight did not direct and control the actions of the content providers as those terms have been used in [the Federal Circuit's] direct infringement cases." *Akamai/McKesson*, at *35. Thus, as a practical matter, the majority left the "agency or contractual obligation" rule in place.

rule should be abandoned in favor of a loose "interaction or collaboration" rule.

It is almost certain that a petition for a writ of certiorari seeking Supreme Court review of the *Akamai/McKesson en banc* decision will be filed. The Section of Intellectual Property Law believes it is relatively likely that any such petition would be granted. The *Akamai/McKesson* decision presents a novel interpretation of § 271, would be the first time that the Supreme Court reviewed the problem of divided infringement, and is directed to an issue that is fundamentally important to patent law. The Section expects numerous amici to support a grant of petition for writ of certiorari. In view of this case's importance, the Section of Intellectual Property Law recommends that the House of Delegates adopt policies expressed in the Resolution to provide the basis for a brief *amicus curiae* by the Association should Supreme Court review be granted or the issues be presented in other litigation involving these issues.

The Current Resolution

Each of the three *Akamai/McKesson* opinions conflicts to varying extent with policy positions favored by the Section of Intellectual Property Law. The Section proposes a four plank resolution to address these problems. The goal and rationale for each plank is described below.

(1) direct infringement may be found on the part of a single entity who does not perform all the steps of a patented process, if such entity directs or controls others who perform any process steps

that the directing/controlling entity itself does not perform;

This plank indicates the Section's support for a broad "control or direction" test. The Section believes that there are cases where, based on the totality of the circumstances, an entity should be held liable for acts which it did not directly perform, but did indirectly perform through its "control or direction" of another. The Section believes that findings of "control or direction" should take into account the totality of the facts and circumstances surrounding the alleged infringement and include in the discussion factors, including but not limited to:

- What is the nature of the relationship between the actors?
- Does an express or implied agreement exist between the actors?
- Is the objective or purpose of the steps performed by multiple actors the same as the patented method or process?

  Are the means which are used to complete the infringement supplied to one participant by another participant?
- What is the degree of control or direction which is maintained by one participant over another or a common actor directing the acts alleged to be infringement?

(2) direct infringement may be found on the part of multiple entities who act in concert to perform, or to direct or control the performance of, the steps of a patented process, as part of a common

design or purpose of such entities for carrying out the process;

This plank expresses the Section's position on the possibility of infringement by joint ventures or in other circumstances involving concerted action. In *Golden Hour Data Systems, Inc. v. emCharts, Inc.*, the Federal Circuit held that two co-equal parties could not be liable for divided infringement because neither one "controlled or directed" the other. 614 F.3d 1367 (Fed. Cir. 2010). The entire Federal Circuit, including all three opinions in *Akamai/McKesson*, has subsequently criticized this absurd conclusion. The Section favors a rule that imposes liability when multiple entities act in concert as part of a common design or purpose for carrying out the claimed process, regardless of whether one party is formally an agent of the other or contractually obligated to perform specific acts.

(3) in fact situations involving multiple entities, a finding of direct infringement does not necessarily require the finding of an agency relationship (or other contractual relationship) between the directing/controlling entities or the entities who act in concert as part of a common design or purpose, and other entities

The Section disagrees with the ten judge plurality that effectively limits "control or direction" under § 271(a) to "agency or contractual obligation."[3] This

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[3] As noted above, the ten judge "plurality" actually consists of four judges who expressly affirmed the "agency or contractual obligation" rule, plus six judges who chose not to address it, thereby effectively leaving it in place.

overly stringent standard creates a loophole that facilitates infringement of valid patents. It is simply too easy to manipulate an "agency or contractual obligation" rule to immunize oneself against a claims of divided infringement through clever contract drafting. Indeed, the Section is aware that many companies are modifying their standard contracts with the express goal of taking advantage of this loophole. Accordingly, the Section urges elimination of this narrow rule.

> **(4) when directing/controlling entities are liable as direct infringers, a directed/controlled entity, who is merely acting under the direction or control of the directing/controlling entities, will not itself be liable as an infringer.**

This plank seeks to avoid imposing liability on entities that perform part of a patented process under the control or direction of another, that is not part of a collaborative plan to jointly perform the steps of the process. The increasing ease with which patented methods may be subdivided among multiple actors greatly increases the risk of infringement by unwitting actors. The Section believes this risk should be mitigated by limiting liability for divided infringement to the party or parties who develop the plan to perform the patented process and control or direct its performance.

The FURTHER RESOLVED clause of the resolution announces the Section's opposition to the *Akamai*/*McKesson* majority's holding that a party may be liable under § 271(b) without proof of an underlying act of "infringement" as provided for by § 271(a). While the Section agrees with the Federal Circuit's majority that a party should not be able to

avoid liability by inducing another to perform one or more steps of a process that the party knows is patented, the Section opposes elimination of the requirement for a finding of direct infringement to support a finding of inducement under § 271(b).

SUMMARY

Processes that *can be* divided easily among multiple actors *will be*, especially if parties know that dividing the steps among multiple actors will immunize them from any claims of patent infringement. And some innovative processes by their nature involve two or more actors, either because the process is directed to an interaction of two actors (e.g., a business method that involves facilitating a consumer's performance of an action) or because the practical reality of the industry is such that different steps will be performed by different entities (e.g., a test or process performed by a subcontracted lab as part of a physician's treatment of a patient). Legal doctrines that fail to recognize these realities, and merely focus on identifying whether a single party was by itself a direct infringer, run the risk of unfairly circumventing legitimate rights of innovators. This, in turn, will work to the detriment of societal interests by undermining the incentive to commercialize such innovations.

The Resolution that the House of Delegates is asked to adopt supports clarification of the standards for finding direct infringement of multiple-step processes, by ruling that direct infringement may also be found where two or more separate entities collectively but not individually perform the process steps, and the steps are performed based upon the

separate entities' common design or purpose of carrying out the patented process.

The Resolution also supports recognition that in these cases the predicate for indirect infringement may be direct infringement that is based upon the collective acts of two or more entities, and clarification of a rule that such collective acts can form the basis for a finding of direct infringement. With this clarification of the law relating to direct infringement, all that is required to correct the misapplication of the laws of indirect infringement (inducing infringement and contributory infringement) is for courts to recognize the "common design or purpose" basis for finding direct infringement.

Respectfully submitted,

Joseph M. Potenza, Chair
Section of Intellectual Property Law
February 2013

GENERAL INFORMATION FORM

Submitting Entity: Section of Intellectual Property Law

Submitted by: Joseph M. Potenza, Section Chair

1. Summary of Resolution

The Resolution calls for the Association to adopt policy relating to determinations of patent infringement in cases with patent claims for methods or processes that require multiple steps and multiple participants to complete. Electronically operated, computer-implemented, and Internet-delivered innovations are growing exponentially, and are frequently embodied in patented processes. Inventions that enable online interactive communication and commerce between merchants and service providers and their customers are prime examples.

Recent panel decisions of the U.S. Court of Appeals for the Federal Circuit unduly circumscribe the circumstances that can support a determination that a claim to such a multiple-step, multiple-actor process patent has been infringed. An August 31 decision en banc of the Federal Circuit leaves these decisions in place, and departs from well-established precedent regarding proof of indirect infringement. The Resolution expresses Association support for clarification of the circumstances in which direct infringement can be found when more than one party completes a patented process. It

also urges a return to the rule that existed before the recent en banc decision, by restoration of a rule that no finding of indirect patent infringement may be made absent a predicate finding of direct infringement by at least one person.

2. Approval by Submitting Entity

The Section Council approved the resolution on November 9, 2012.

3. Has This or a Similar Recommendation Been Submitted to the House or Board Previously?

A similar Resolution was submitted to the House of Delegates at the 2012 Annual Meeting but was withdrawn before consideration by the House. At the time of withdrawal, a decision of the Federal Circuit was expected shortly in an en banc review involving issues addressed in the proposed resolution. The resolution was withdrawn in order to allow consideration of that decision, which was announced on August 31, and consideration of which is reflected in this submission.

4. What Existing Association Policies are Relevant to This Resolution and How Would They be Affected by its Adoption?

There are no existing Association policies that are relevant.

5. What Urgency Exists Which Requires Action at This Meeting of the House?

The issues that are the subject of the policy expressed in the Resolution were presented in

two cases that recently received en banc review in the U.S. Court of Appeals for the Federal Circuit. The decision in those consolidated appeals is likely to be the subject of a petition for certiorari in the U.S. Supreme Court. Action by the House of Delegates at the 2013 Midyear Meeting is necessary to insure that, should certiorari be granted, any Association brief on the merits could be timely filed.

6. Status of Legislation

None.

7. Plans for Implementation of the Policy if Adopted by the House of Delegates

The policy will provide authority for the preparation and filing of an Association amicus brief in the Supreme Court or other appropriate judicial forum in a case presenting the issues that are addressed in the policy.

8. Cost to the Association (both direct and indirect costs).

Adoption of the recommendations would not result in additional direct or indirect costs to the Association.

9. Disclosure of Interest

There are no known conflicts of interest with regard to this recommendation.

10. Referrals

This recommendation is being distributed to each of the Sections and Divisions, the

Standing Committees of the Association, and the Forum on Communications Law.

11. Contact Person (prior to meeting)

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12. Contact Persons (who will present the report to the House)

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EXECUTIVE SUMMARY

1. Summary of the Resolution

The resolution calls for the Association to adopt policy relating to determinations of patent infringement in cases with patent claims for methods or processes that require multiple steps and multiple participants to complete.

2. Summary of the Issue that the Resolution Addresses

Electronically operated, computer-implemented, and Internet-delivered innovations are growing exponentially, and are frequently embodied in patented processes. Inventions that enable online interactive communication and commerce between merchants and service providers and their customers are prime examples.

Recent decisions of the U.S. Court of Appeals for the Federal Circuit unduly circumscribe the circumstances that can support a determination that a claim to such a multiple-step, multiple-actor process patent has been infringed. These panel decisions have ruled that direct infringement liability can only be found if all the acts required to constitute infringement are attributable to one entity who "controls or directs" the others, and that such control or direction can be found only if the entities act together pursuant to an agency relationship or a contractual commitment of one to act on behalf of the other.

3. Please Explain How the Proposed Policy Position will Address the Issue

The Resolution expresses Association support for expansion of the circumstances in which direct infringement can be found when patented processes require more than one party to complete. It also supports restoration of a rule that no finding of indirect patent infringement may be made absent a predicate finding of direct infringement by at least one person.

The Resolution also supports recognition that the requirement direct infringement be established as a predicate for indirect infringement can be met by a showing of direct infringement based upon the collective act of two or more entities.

4. Summary of Minority Views

None known at this time.

AMICUS CURIAE BRIEF

RECORD
AND
BRIEFS

12-786

Supreme Court, U.S.
FILED
APR 1 - 2014
OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

—v.—

AKAMAI TECHNOLOGIES, INC., ET AL,

Respondents.

ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICUS CURIAE* AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION ("AIPLA") IN SUPPORT OF RESPONDENT

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INTEREST OF AMICUS CURIAE[1]

The American Intellectual Property Law Association ("AIPLA") is a national bar association of approximately 15,000 members engaged in private or corporate intellectual property practice, in government service, and in the academic community. AIPLA members represent a wide and diverse spectrum of individuals, companies, and institutions involved directly and indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. The members represent both owners and users of intellectual property.

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[1] Pursuant to Supreme Court Rule 37.6, the Association states that this brief was not authored in whole or in part by counsel to a party, and that no monetary contribution to the preparation or submission of this brief was made by any person or entity other than the Association and its counsel. After reasonable investigation, AIPLA believes that (i) no member of its Board or Amicus Committee who voted to file this brief, or any attorney in the law firm or corporation of such a member, represents a party to this litigation in this matter, (ii) no representative of any party to this litigation participated in the authorship of this brief, and (iii) no one other than AIPLA, or its members who authored this brief and their law firms or employers, made a monetary contribution to the preparation or submission of this brief.

Petitioners have provided written consent, on file with the clerk, to the filings of briefs in support of either, or neither, party. Respondents have provided written consent for the filing of this brief, which is being submitted herewith.

AIPLA files this brief not to advocate for any ultimate outcome in this dispute, but rather to present the Association's views as amicus curiae on the correct rule of law that should apply to joint direct patent infringement that should be applied by the district court on remand.

SUMMARY OF THE ARGUMENT

The cornerstone of Petitioner's argument is that it follows from the language and simple structure of Sections 271(a) and 271(b) of Title 35 "that § 271(b) proscribes conduct that induces ***actionable direct infringement of a patent as described in § 271(a)***." Pet. Br. at 1 (emphasis added). In doing so, Petitioner focuses on the elements of a claim for induced infringement under 35 U.S.C. § 271(b), but hides the true issues of this case – what is the meaning of "infringement" and is there patent liability when someone causes all of the steps of a method patent to be performed but no single entity performs ***all*** of the steps of the method claim by him or herself?

Recent Federal Circuit law has, without any statutory basis, limited infringement under Section 271(a) to the actions of a single entity, and some *amici* have even mistakenly characterized the single entity rule as settled law, *e.g.*, Brief of Amici Curiae Cargill, Inc. *et al.* at 4 (but it is not, as shown below and in district court cases in the accompanying footnote[2]). It

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[2] Consider, for instance, pre-Federal Circuit cases like *Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F. Supp. 207, 253 (D. Conn. 1973), where the district court found that defendant liable for

(footnote continued ...)

is that erroneous limitation that leads to confusion over whether or not direct infringement is necessary for a finding of indirect, induced infringement.

AIPLA believes that the so-called "single entity" rule for deciding method claim infringement under 35 U.S.C. § 271(a), where multiple actors perform the claim steps, as set out in recent Federal Circuit panel decisions[3] as well as in the instant case, is based both on an incorrect construction of Section 271(a) and of the statutory structure of Section 271 as a whole. In concluding that ***only*** principles of agency law determine the ambit of such infringement liability, the Federal Circuit has mistakenly strayed from the traditional tort law basis of patent infringement and has created loopholes for method

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infringement of several patent claims related to catalyst preparation where the defendant's customers performed several of the claimed steps. *See Ralston Purina Co. v. Far-Mar-Co., Inc.*, 586 F. Supp. 1176, 1226 (D. Kan. 1984) ("It is well settled that a party cannot avoid infringement merely by having a third party practice one or more of the required steps"); *E. I du Pont de Nemours & Co. v. Monsanto Co.*, 903 F. Supp. 680, 735 (D. Del. 1995), *aff'd*, 1996 U.S. App. LEXIS 17512 (Fed. Cir. July 17, 1996) (The "cases establish that a party cannot avoid liability for infringement by having someone else perform one or more of the steps of a patented process for them.").

[3] *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008); *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007); *Cross Med. Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293 (Fed. Cir. 2005); *see Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 629 F.3d 1311 (Fed. Cir. 2010), *vacated for en banc review*, 2011 U.S. App. LEXIS 17130 (Fed. Cir. Aug. 10, 2011) ("*Akamai I*").

claim infringement that drastically reduce the exclusive rights conferred by validly issued patents – it has, in effect, reduced the scope of method patents until they have little relevancy.

Section 271 generally, and Section 271(a) in particular, must be construed to allow for infringement of a method claim by more than one entity – in doing so, however, AIPLA suggests it also is fair and appropriate to separate participation in infringement from actual liability. Specifically, the Court should clarify that infringement occurs when actions representing all the claimed elements are present, ***without*** regard to the number of actors. But, identifying the party or parties ***responsible*** for that harm, *i.e.* those who may be held liable and subject to paying damages, should be separately assessed under traditional principles of tort law liability for joint tortfeasors, especially as developed in the case law both before and after the 1952 Patent Act.

As the panel decisions in *Muniauction* and *BMC* set out, it is inequitable to let the party(ies) who masterminded the infringement avoid responsibility, and they should be liable for damages, whether or not the mastermind conducted any infringing step. However, those who practice a claimed method step without substantive comprehension of the overall method being practiced should not be liable, *e.g.*, for damages. (For instance, the mere user of a website who fills in a database or follows instructions should not ordinarily be liable for infringement even if that was a claimed method step, whereas those who ran

the website or provided the instructions could be subject to liability.[4])

Infringement of a method claim under Section 271(a) requires that every step be performed, but it does not require that every step of the claimed method be performed by a single entity or person. That is clear from both the actual language of Section 271(a) and the statutory structure of 271 as a whole.

At the textual level, the subject of Section 271(a) is "whoever." Congress set forth in 1 U.S.C. § 1 that singular terms include plurals unless the context indicates otherwise, *e.g.*, "a single person," and therefore Section 271(a) applies to one or more persons.[5] There is nothing in the context or history of Section 271(a) that indicates Congress intended to limit Section 271(a) to "single entities" and immunizing joint tortfeasors. While proof of infringement requires evidence that all steps of a

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[4] For instance, the district court in *Applied Interact, LLC v. Vermont Teddy Bear Co., No.* 04 Civ. 8713 (HB), 2005 U.S. Dist. Lexis 19070 (S.D.N.Y. Sept. 6, 2005), at *16-17, set out that because customers perform the claimed steps "in accordance with [defendant's] instructions," that was sufficient to show a "connection" between the defendant and the customers to deny defendant's judgment motion.

[5] "In determining the meaning of any Act of Congress, unless the context indicates otherwise— **words importing the singular include** and **apply to several persons**, parties, or things; words importing the plural include the singular; ... the **words "person" and "whoever" include corporations**, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals; ... " 1 U.S.C. § 1 (emphasis added).

method claim are performed, nothing in the language of Section 271(a) requires they be done by a single entity. Moreover, the legislative history and overall statutory structure of Section 271 indicate that Congress wrote the direct infringement provision of Section 271(a) very broadly, but went into more detail in the subsequent paragraphs on indirect infringement.

Having established that infringement exists when all steps are performed even by multiple actors, there is the separate question of liability for the principal director of the actions, *i.e.* the "mastermind". Such liability should not require a formal agency relationship between a principal and other actors (as the Federal Circuit posits, carving out a special patent rule for patent tortfeasors). Instead, Section 271(a) ***liability*** should be based on a traditional joint tortfeasor analysis by showing that the liable party(ies) (1) performed at least one claimed step, and (2) substantially participated in producing the performance of the method steps (*e.g.*, by the others involved). *See* Restatement of Torts §§ 875 cmt. c and 834 cmt. d (must show substantial participation to establish liability). Thus, liability should attach only to each named defendant who has had (a) some involvement in ***performing*** the claim steps, and (b) a substantial involvement in ***causing*** the infringing harm. This balances both the interests of patent owners and the unsuspecting public in accordance with traditional tort law.

This Section 271(a) analysis for direct infringement, however, is distinguishable from

induced or contributory infringement under Sections 271(b) and (c); for those two indirect infringement categories a party may be held liable without personally practicing any of the steps of the claim. *See, e.g., Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. __, 131 S. Ct. 2060 (2011) (as to Section 271(b) induced infringement), and *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176 (1980) (as to Section 271(c) contributory infringement). Accordingly, AIPLA's position does not risk undermining the statutory structure that distinguishes direct from indirect infringement.

Direct infringement should not be limited only to an agency-type relationship between parties who perform the method steps or to a contractual obligation to another to perform the steps, and that liability for that infringement should attach to the principal director of the infringing actions. The law of direct patent infringement under 35 U.S.C. § 271(a) should conform to the traditional tort law basis for liability, without an alternate standard for patent infringement. Once direct infringement, properly understood, has been found under Section 271(a), whether a party is liable for indirect infringement can then be correctly assessed.

ARGUMENT

A. Infringement Of A Method Claim Does Not Require That A Single Entity Performed Every Step Of The Claimed Process

In this case, a panel of the Federal Circuit concluded that direct infringement under 35 U.S.C. § 271(a) was not shown because the steps of the method claim at issue were not all performed by a single entity and there was no formal agency relationship to permit the actions of parties not named in the lawsuit to be attributed to Limelight. *Akamai I*, 629 F.3d at 1311. Although the Federal Circuit took that issue *en banc*, the *en banc* majority opinion avoided the panel's issue. *See Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1319-20 (Fed. Cir. 2012) (*en banc*) ("*Akamai II*") (Newman, J., dissenting). But as pointed out by the United States in this case, it is likely that the Federal Circuit's blind, incorrect adherence to the single entity test for direct infringement led it to rule as it did in *Akamai II*, *i.e.*, as an attempt to find a vehicle for liability based upon the actions of multiple parties. *See* Brief of the United States as *Amicus Curiae* ("U.S. Br.") at 13-14.

AIPLA submits that owners of method patents must not be restricted to enforcing their rights against single entities that perform all of the steps in the method claim and/or where all steps are performed by multiple parties acting in an agency-type relationship. Yet, that is what the Federal Circuit has done with its single entity

requirement for direct infringement; it created a gaping loophole that renders issued and future patents in important technologies virtually unenforceable. To allow this situation to go uncorrected will encourage the development of business models designed to misappropriate the patented methods of others by ensuring that one or more steps of those methods are performed by separate third parties.[6]

Federal Circuit panels have suggested that this is merely a claim drafting problem,[7] but that is wrong. AIPLA (representative of those who draft and prosecute claims) and the United States (representative of the U.S. Patent & Trademark Office that examines and issues claims), both agree that this is an incorrect characterization. *See* U.S. Br. at 33 ("It is not clear, however, that drafting claims from the perspective of one actor is always possible. Some inventions may not be susceptible to framing from the perspective of a single actor or hub, and applicants are also constrained by the patentability requirements contained in Sections 102, 103 and 112 of the Patent Act."). It is unfair to assume any drafter could anticipate all of the possible

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[6] In *Akamai II*, the Federal Circuit attempted to correct the situation by expanding indirect infringement. However, the better approach would focus on section 271(a) and direct infringement.

[7] *E.g.*, *Akamai I*, 629 F.3d at 1322; *BMC*, 498 F.3d at1381 ("patentee can usually structure a claim to capture infringement by a single party.").

schemes that could be devised to achieve the performance of some portion of a claimed method by a second actor. *E.g., Golden Hour Data Sys., Inc. v. emCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010) (where two co-equal parties divided infringement steps, Federal Circuit held neither "controlled or directed" the other so there was no infringement liability). Nor should a drafter be required to anticipate such schemes at the risk of losing the ability to draft a claim that unambiguously defines the claimed method. The suggestion that this problem can be resolved by better claim drafting dodges the challenge of finding a proper remedy for the real harm to the owner of a validly issued patent.

i. Congress Has Defined "Whoever"

The *Akamai II* decision avoided the statutory question of whether Section 271(a) includes multiparty infringement. The answer to the question must begin with the actual language of 35 U.S.C. § 271(a) (emphasis added), which is as follows:

> Except as otherwise provided in this title, ***whoever*** without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

The controlling language for purposes of the method claims in this case is "whoever ... uses ... any patented invention ... infringes the patent." Nothing

in the language of Section 271(a) confines its scope to infringement by a "single entity."

While the term "whoever," the subject of the statutory phrase, is a singular pronoun for grammatical purposes, its statutory construction also was dictated by Congress in 1 U.S.C. § 1, ¶2, which states that "words importing the singular include and apply to several persons, parties, or things." In addition, Section 1, ¶7 states "the words 'person' and 'whoever' include corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals," i.e., those words include the plurals of the entities listed. (1 U.S.C. § 1 is quoted in relevant part in *note 5 above*) The construction of "whoever" mandated by 1 U.S.C. § 1 is consistent with the plain meaning of the term in its dictionary definition: "[w]hatever person ***or persons***." The American Heritage® Dictionary of the English Language (4th ed. 2000) (emphasis added). Using the ordinary meaning of "whoever," *e.g.*, as found in 35 U.S.C. § 271(a), a patent is directly infringed by any person (single entity) who uses a patented invention, ***or*** by any group of "persons" (multiple entities) who together use a patented invention.

The term "whoever" also is used elsewhere in the Patent Code (35 U.S.C.) to include the plural, so it should be treated consistently to include multiple actors here too for purposes of determining infringement. *Gustafson v. Alloyd Co.*, 513 U.S. 561, 568 (1995) (the same term is presumed to have the same meaning when used in separate sections of a

statute); *Voracek v. Nicholson*, 421 F.3d 1299, 1304 (Fed. Cir. 2005) (accord). For instance, it is used in 35 U.S.C. §101 to define patentable subject matter with the phrase "Whoever invents." This grammatically singular form has the meaning of one or more allowing for joint-inventors, as also evidenced by the provision for joint inventors at 35 U.S.C. §116 and as consistently interpreted by the courts and U.S. Patent Office to mean whatever one or more persons invent. *E.g., Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, 40 F.3d 1223, 1227 (Fed. Cir. 1994) *and* 37 C.F.R. §§ 1.41 & 1.45 (provisions for joint inventors). Thus, the term "whoever" is presumed to have the same meaning in Section 271(a) that it has for Sections 101 and 116, encompassing one or more actors.

ii. Statutory Construction of "Uses ... Any Patented Invention"

Infringement under Section 271(a) pertains to the use of "any patented invention." As the case law makes clear, such a use occurs whenever every element of the claimed invention has been practiced. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997) (holding that the doctrine of equivalents, like literal infringement, must be tested element by element); *Canton Bio-Med., Inc. v. Integrated Liner Technologies, Inc.*, 216 F.3d 1367, 1370 (Fed. Cir. 2000); *Gen. Foods Corp. v. Studiengesellschaft Kohle gmbH*, 972 F.2d 1272, 1274 (Fed. Cir. 1992). For method patent claims, infringement occurs when all of the steps of the

process are performed. *Joy Technologies, Inc. v. Flakt, Inc.*, 6 F.3d 770, 773 (Fed. Cir. 1993).

Where such an infringement exists, nothing in the statute, or in the rule requiring that all claim steps are performed, suggests that a remedy for patent infringement will lie only when the "use" of the patented invention results from a single person's activities, rather than from the combined actions of two or more persons.

To the extent Federal Circuit opinions have held otherwise, they did not analyze the issue by applying the historical tort principles that have traditionally been applied *inter alia* in patent cases. For example, while the *BMC* case held that the defendant could not be liable for direct infringement because it did not perform all of the claimed method steps, it did so based on *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1568 (Fed. Cir. 1983), and *Cross Med.*, 424 F.3d at 1311. In *Fromson*, the Federal Circuit held that a finding of no infringement was based on an erroneous claim construction and remanded the case for further consideration. A passing comment in the opinion that the defendant could not be liable for direct infringement (but it could be liable for contributory infringement) where its customers performed one of the claimed steps was *dicta*, providing no analysis of the joint tortfeasor issue and no citation to any authority. *Cross Medical* held that the presence of the defendant's representatives in the operating room advising doctors was insufficient to attribute the doctors' conduct to the defendant for Section 271(a) purposes.

However, this decision was also reached in a conclusory way with no cited authority.

These decisions, and others like them, stem from a conflation of the proper analysis of infringement liability. Correctly performed, the analysis should:

> (1) see whether an unauthorized use of the claimed invention occurred, and
>
> (2) analyze whether one or more of the persons involved in creating that harm may be fairly held liable for it.

Under this two-step approach, the first question is the traditional one: has every element of the patent claim been practiced such that an infringement has resulted? Once that harm to the patentee has been established, the next question involves two parts: (a) who participated in causing that harm, and (b) was that participation substantial enough to fairly hold that party liable for causing any harm? This is simply basic tort liability.

This analytical framework subsumes not only single-actor and actor-agent infringements, but other situations, as in the case at bar, where several persons acting together produce the infringing harm and at least one of them has had such a substantial involvement in orchestrating the actions such that it fairly should be held liable for causing that harm. It also protects innocent actors from liability – such as users who merely log onto a website and/or provide

customer-type information – and instead looks to the principal actor(s) for liability.

iii. Statutory Construction of Section 271 As a Whole

The history of Section 271 is consistent with the application of traditional tort doctrine to direct patent infringement, without the limitation of a "single entity" requirement. This Court long ago recognized that remedies for violating patent rights have their roots in traditional tort law. *Dowagiac Mfg. Co. v. Minn. Moline Plow Co.*, 235 U.S. 641, 648 (1915) (holding that patent infringement was a "tortious taking").

Before the Patent Act of 1952, no statute included a provision on patent infringement. Congress left it to the judicial branch to settle the question of infringement when requested to do so by patent owners. P.J. Federico, "Commentary on the New Patent Act," 75 J. Pat. & Trademark Off. Soc'y 161, 212 (1993) (reprinted from Title 35, United States Code Annotated (1954 ed.)). After 162 years of judge-made law in this area, Congress took the reins to remedy problems that had arisen with the common law of contributory infringement and patent misuse by enacting Sections 271(a), (b), and (c). G. Rich, "Infringement Under Section 271 of the Patent Act of 1952," 35 J. Pat. & Trademark Off. Soc'y 476 (1953).

Section 271(a) is generally referred to as the "direct infringement" provision, although the word "direct" does not appear in the provision. It sets out

the fundamental exclusive rights to make, use or sell a patented product or process (later expanded to include offering for sale and importing into the United States). Noting that the primary impetus for enacting Section 271 was the contributory infringement and patent misuse problem. The late Judge Giles Rich, one of the principal drafters of the 1952 Act, had the following observation:

> Paragraph (a) defines direct infringement and is present only for the sake of completeness. We got along without it for 162 years and we could again. Its omission would change nothing.

Id. at 491. Sections 271(b) and (c), on the other hand, are directed to specific types of "indirect" joint tortfeasor offenses by those who "induce" or "contribute" to infringement. As observed by another contemporaneous commentator, "The new act [in §271(a)] makes no effort to codify the 'common law' rules relating to direct infringement except to state broadly that whoever uses the invention without authority infringes the patent." K. Lutz, "The New 1952 Patent Statute," 35 J. Pat. Off. & Trademark Soc'y 155, 157 (1953).

Thus, the statute first sets out the most basic category of infringement in Section 271(a); given the statutory meaning of the term "whoever" under 1 U.S.C. §§ 1 and 7, this could involve a single party or multiple parties under a joint tortfeasance theory. It then addresses other more specific types of

infringement in Sections 271(b) and (c) that may fall outside of the language of Section 271(a).

iv. Statutory Construction: Section 271(a) Actions Against Multiple Parties Will Not Render Remaining Provisions of Section 271 Superfluous

It has been said that the statutory scheme for indirect infringement under Sections 271(b) and (c) will be subverted by permitting Section 271(a) actions against multiple parties, each performing less than all of the claim steps but together performing all of them.[8] It will not. The correct consideration is not the statutory scheme for indirect infringement, but rather the statutory scheme for infringement as a whole. Each separate paragraph of the statute is not an entirely discrete category of prohibited activity, and there may be a degree of overlap in the applicability of those paragraphs to a specific accused infringer's conduct to ensure that the patent grant is protected from misappropriation. *Cf. Graver Tank & Mfg., Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950) (The purpose of the doctrine of equivalents is to prevent others from misappropriating an invention by merely making "unimportant and insubstantial changes and substitutions in the patent."); *Winans v. Denmead*, 56 U.S. 330, 342-43 (1853) (reversing

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[8] *BMC*, 498 F.3d at 1381; *McKesson Technologies, Inc. v. Epic Sys. Corp.*, No. 2010-1291, 2011 US App LEXIS 7531 (Fed. Cir. Apr. 12, 2011), *rev'd, Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2013) (en banc).

non-infringement holding, "the property of inventors would be valueless, if it were enough for the defendant to say, your improvement consisted in a change of form; you describe and claim but one form; I have not taken that, and so have not infringed.").

The approach to Section 271(a) proposed by AIPLA does not render Sections 271(b) and (c) "meaningless" or "superfluous" because those paragraphs continue to apply in circumstances where (a) does not.[9] Sections 271(a), (b) and (c) provide both complementary and overlapping bases for imposing liability.[10] For example, Section 271(a) does not apply to an entity that performs no steps of a patented method. However, that same entity could be liable for inducing infringement under Section 271(b), where it could be shown to have actively induced acts meeting each and every element of the claim.[11] That entity

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[9] *Conn. Nat'l Bank v. Germain*, 503 U.S. 249, 253 (1992) (overlapping statutory sections not superfluous where each "confers jurisdiction over cases that the other section does not reach"); *James v. Santella*, 328 F.3d 1374, 1381-82 (Fed. Cir. 2003) (interpretation not superfluous where "prevailing party" not always "substantially innocent").

[10] *See, e.g., Arthrocare Corp. v. Smith & Nephew, Inc.*, 310 F. Supp. 2d 638, 657-61 (D. Del. 2004), *aff'd in part, vacated in part*, 406 F.3d 1365 (Fed. Cir. 2005) ("*Arthrocare II*"); *Drexelbrook Controls, Inc. v. Magnetrol Int'l, Inc.*, 720 F. Supp. 397, 407 (D. Del. 1989), *aff'd without opinion*, 904 F.2d 45 (Fed. Cir. 1990).

[11] *See, e.g., Arthrocare II*, 406 F.3d at 1376-77. The Supreme Court recently addressed the requirements for establishing inducement of infringement under Section 271(b) in *Global-Tech*, 131 S. Ct. 2060 (2011).

could also be liable for contributory infringement under Section 271(c) by providing a non-staple, material component to perform the steps of the process. *See, e.g., Preemption Devices, Inc. v. Minn. Mining & Mfg. Co.*, 803 F.2d 1170, 1174 (Fed. Cir. 1986). Moreover, when seeking liability for inducement or contributory infringement, a patent owner can obtain broader injunctive relief to prevent the aiding and abetting of a direct infringement. The same conduct that constitutes induced or contributory infringement may also independently constitute an act of direct infringement. For example, selling an infringing product is a direct infringement and may also be an act of inducing a customer to sell or use the infringing device. *See, e.g., Union Carbide Chemicals & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1369 (Fed. Cir. 2005).

Sections 271(b) and (c) were enacted to codify existing law of indirect infringement, not to change existing law of direct infringement. There is no indication in the statutory history that Congress intended to exclude joint infringement when it enacted Sections 271(a), (b) and (c). In *Aro*, this Court drew upon common-law principles, not a new "rule of law," in stating that "a contributory infringer is a species (not a genus) of joint-tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 500 (1964).

Accordingly, the statute and its application in the case law support the conclusion that Section

271(a), in addition to Sections 271(b) and (c), is available for actions against multiple actors infringing method patent claims.

B. Joint Tortfeasor Law, Not Agency Law, Is the Correct Basis for Determining Infringement by Multiple Parties Sued Under Section 271(a)

In its brief, the United States acknowledges that under current Federal Circuit law there are "difficult issues that arise[] when two or more parties, acting without the authorization of the patent owner, collectively perform all of the steps of a patented process." U.S. Br. at 10. The United States suggests that this is due to traditional tort liability theory (*id.* at 12) and leaves it to Congress to devise a solution (*id.* at 30-34). While AIPLA agrees with the government to some extent, it also disagrees.

There is no need for *additional* Congressional action – Congress already has spoken as set out above, such as in its enactment of 1 U.S.C. § 1. The United States is correct in stating that traditional tort theory should apply; the agency theory embraced by the Federal Circuit is not the only basis for assessing infringement by multiple parties sued for infringement under Section 271(a). (While an agency or vicarious liability test can establish joint infringement, it certainly is not the only test.) Instead, the answer can be readily found by properly applying joint tortfeasor law. Recent Federal Circuit decisions that require a principal's direction or control of an agent to determine which actions are attributable to a "single entity" incorrectly leave

behind the tort law basis of infringement and foreclose many interactive technologies from obtaining enforceable patent rights.[12]

As explained above, a direct infringement determination should establish whether there has been a tortious harm inflicted on the patentee by the unauthorized practice of all of the method steps in the patent claim, without regard to the number of actors engaged in the performance of such steps. Where that infringement is demonstrated, the actors liable for the harm are determined by the substantial and causative nature of their participation in producing the infringing harm to the patentee.

In shorthand, the query is: (1) were all of the claim steps practiced to demonstrate infringement; (2) who were the actors engaged in the performance of the claim steps; and (3) was the performance of the claim step(s) by the named defendant a substantial and causative part of the harm inflicted on the patentee? This analysis permits the liability determination to be made according to the specific conduct presented in a wide variety of factual settings, rather than by looking for formal

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[12] *See Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852) ("The franchise which the patent grants, consists altogether in the right to exclude everyone from making, using, or vending the thing patented, without the permission of the patentee."); *see also McKesson*, 2011 US App LEXIS 7531 at *22 (Newman J. dissenting) ("A patent that can never be infringed is not a patent in the definition of the law, for a patent that cannot be infringed does not have the 'right to exclude'.").

relationships between actors, which can easily be manipulated to circumvent the patent owner's enforcement rights. Where direct infringement under traditional joint tortfeasor principles is established, an agency relationship between defendants certainly may provide grounds for direct infringement liability, but the agency issues are not relevant to the determination of direct infringement itself.

i. The Authority Cited Below Fails to Provide a Theory of Liability Consistent with Patent Enforcement Rights

The principal Federal Circuit cases setting forth the single-entity requirement for of a method claim under Section 271(a) are *BMC*, *Muniauction* and *Akamai*. Each of these cases refused to find direct infringement where some steps in the method claim were not performed by the named defendant but by another actor not sued by the patentee.

In *BMC*, the Federal Circuit found the defendant had inadequate direction and control of financial institutions practicing some of the claimed steps of the accused process. In *Muniauction*, the steps performed by bidders were not attributable to the defendant auctioneer for lack of direction or control. In *Akamai*, the tagging of web site code by web content providers was not attributable to the defendant provider of Internet content delivery services. These rulings were made against a background of *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331 (Fed. Cir. 2006), where the Federal Circuit approved of a jury instruction that

the participation and combined actions of two separate entities could demonstrate joint direct method claim infringement.[13]

Those decisions turn on the relationship between the named defendant who performs some of the claim steps and the unnamed actors who perform the remaining claim steps. This is not the appropriate analysis because it invites a defendant to simply outsource steps to avoid infringement, a practice repudiated under established rules of tort law.[14] Moreover, the requirement of a formal agency relationship in *Akamai* severely limits the use of vicarious liability, which has long been recognized as an alternative theory of liability. None of the cases

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[13] The jury instruction was: "It is not necessary for the acts that constitute infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement. Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method. Where the infringement is the result of the participation and combined action(s) of one or more persons or entities, they are joint infringers and are jointly liable for the infringement." *Id.* at 1344-45. The Federal Circuit "discern[ed] no flaw in this instruction as a statement of law." *Id.* at 1345.

[14] Although not presented by the facts of this case, a "mastermind" theory of liability could also be applied to other settings where the performance of claim steps by unnamed actors could be attributed to a Section 271(a) defendant that orchestrates the steps of others, knows that all of the steps are being performed, and enjoys the commercial benefit of the infringement.

cited in *BMC*, *Muniauction* or *Akamai* support the limitations placed on proving joint method claim infringement, whereas numerous district courts have recognized that a different balance for finding liability is necessary and justified.[15]

ii. The Federal Circuit Strayed from Tort Law Basis of Patent Infringement

The Federal Circuit decisions on actions involving multiple parties who together practice all

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[15] *See, e.g.*, *Cordis Corp. v. Medtronic AVE, Inc.*, 194 F. Supp. 2d 323, 349 (D. Del. 2002), *aff'd in part on other grounds, rev'd in part on other grounds*, 339 F.3d 1352 (Fed. Cir. 2003) (finding infringement when one step was performed by a manufacturer and the remaining steps by a customer); *W.R. Grace & Co. v. Interact, Inc.*, 60 F. Supp. 2d 316, 326-27 (D. Del. 1999); *E.I. du Pont de Nemours & Co.*, 903 F. Supp. at 735 (The "cases establish that a party cannot avoid liability for infringement by having someone else perform one or more steps of a patented process for them."); *FMC Corp. v. Up-Right, Inc.*, 816 F. Supp. 1455, 1461 (N.D. Cal. 1993), *aff'd*, 21 F.3d 1073 (Fed. Cir. 2004) ("Under federal patent law, when infringement results from the participation and combined or successive action of several parties, those parties are joint infringers, and are jointly liable."); *McDermott v. Omid Int'l*, 723 F. Supp. 1228, 1236 (S.D. Ohio 1988) ("Where the infringement is the result of the participation and combined actions of the defendants, they are joint infringers and are jointly liable for the infringement."); *Shields v. Halliburton Co.*, 493 F. Supp. 1376, 1389 (W.D. La. 1980), *aff'd*, 667 F.2d 1232 (5th Cir. 1982) ("When infringement results from the participation and combined action of several parties, ***they are all joint infringers and jointly liable for patent infringements***. Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method.") (citation omitted; emphasis added).

claim steps but individually practice less than all have strayed from the longstanding tort law basis for establishing infringement. Concern for enforcement of patent rights against defendants who outsource – or otherwise shift – the performance of one or more claim steps to avoid liability has been a matter of concern in the law for a long time. Although it arose in the context of a combination utility patent, the seminal decision in *Wallace v. Holmes*, 29 F. Cas. 74 (No. 17,100) (C.C. Conn. 1871), is instructive.

The claim at issue in *Wallace* was directed to an improved lamp comprising the combination of a chimney and a burner, and infringement was alleged against the maker and seller of the burner, although it was useless without the chimney. The court acknowledged that one who uses some but not all of the parts, is not an infringer, but it did not find this an adequate answer where the defendant is one of several joint infringers.

> It cannot be, that, where a useful machine is patented as a combination of parts, two or more can engage in its construction and sale, and protect themselves by showing, that, though united in an effort to produce the same machine, and sell it, and bring it into extensive use, each makes and sells one part only, which is useless without the others, and still another person, in precise conformity with the purpose in view, puts them together for use. If it were so, such patents would, indeed, be

> of little value. In such case, all are tort-feasors, engaged in a common purpose to infringe the patent, and actually, by their concerted action, producing that result.

Id. at 80. The *Wallace* decision rejected the possibility of avoiding infringement by showing only partial performance by individuals where entire performance is accomplished by concerted action. This principle applies to method claims as well as to combination apparatus claims where performing the steps of the claimed method is analogous to combining elements of the claimed apparatus. In this respect, the *Wallace* decision repudiates a "single entity" rule.[16]

The Restatement of Torts states: "it is implicit that any one of a number of persons whose tortious conduct is a substantial factor in causing harm is liable for the harm in the absence of a superseding cause." Restatement (Second) of Torts § 875 cmt. c (1979). Another comment explains :

> When a person is only one of several persons participating in carrying on an activity, his participation must be substantial before he can be held liable

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[16] This proposition is presented in two leading treatises of the day together with the relevant case law. 3 William Robinson, The Law of Patents For Useful Inventions § 924, p. 101 (1890), and George Ticknor Curtis, A Treatise on the Law of Patents for Useful Inventions, § 309b, p. 401 (4th ed. 1873).

> for the harm resulting from it. This is true because to be a legal cause of harm a person's conduct must be a substantial factor in bringing it about. (*See* §§ 431-433, and § 876). When there is reasonable doubt, the question is for the trier of fact. (*See* § 434). Thus if the operation of a dance hall unreasonably interferes with the comfortable enjoyment of a neighboring residence, the proprietor is liable, but a patron normally does not participate in the objectionable activity to such an extent as to justify imposing liability upon him for the invasion. Likewise, a workman employed with others to dig a cesspool does not participate to a sufficient extent to justify holding him liable for harm to another's land caused by its negligent use.

Restatement (Second) of Torts § 834 cmt. d (1979)

This assessment of an actor's substantial participation in producing the infringement is consistent with the approach taken elsewhere in the patent statute, balancing the interests of patent owners and the public. The following provisions illustrate that the substantiality of the conduct in causing the infringing harm is a factor in determining whether liability attaches and whether conduct is exempt from liability as insubstantial:

- Section 271(c) requires, for contributory infringement, the provision of a "material part of the invention" while exempting activity relating to "a staple article or commodity of commerce suitable for substantial noninfringing use."

- Section 271(f)(1) requires the provision of "a substantial portion of the components of a patented invention";

- Section 271(f)(2) requires the supply of a "component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article"; and

- Section 271(g)(2) provides an exemption for products which "become[] a trivial and nonessential component of another product."

Applying these tort principles in the patent context, a direct infringement may take place, even in the absence of an agency relationship, when two or more persons acting together practice all the steps of a method claim. However, liability for that infringement will attach only to those persons whose conduct was a substantial factor in causing the infringement.[21] *See Lexmark Int'l, Inc. v. Static*

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[21] This would requirement would alleviate the concern raised by Petitioner that consumers would be subject to infringement suits for *de minims* activity. *See* Pet. Br. at 44.

Control Components, Inc., No. 12-873, __ U.S. __, 2014 U.S. LEXIS 2214 at *26-27 (Mar. 25, 2014) ("Second, we generally presume that a statutory cause of action is limited to plaintiffs whose injuries are proximately caused by violations of the statute. . . . The question it presents is whether the harm alleged has a sufficiently close connection to the conduct the statute prohibits."). While it will generally be left for the fact-finder to decide the issue of substantiality, the statute provides safe harbors relating to the provision of staple products and commodities of commerce suitable for substantial noninfringing uses.

Customers or transient users who simply carry out a few steps of a patented method, or deploy certain modules of a patented software application, should not ordinarily be liable for schemes or systems set up by a commercial party. Rather, the commercial party should remain liable for the infringement, even if, as the commercial actor clearly intends and as a reasonable proximate result of their actions, those additional steps or claimed components are carried out by such customers.

CONCLUSION

There is no black letter rule in the statute or in the case law that provides a simple answer to the questions presented in this case. Instead, there is a confluence of legal principles that need to be harmonized in a way that preserves the effectiveness of the statute for vindicating the rights conferred by a patent and in a way that is consistent with

longstanding doctrines that have informed the application of the statute. Tort law as applied to joint infringement, not agency law, provides the best set of principles to apply toward that end.

The Federal Circuit properly ruled that there can be infringement of a method claim under Section 271(b) even when no single entity performs all of the steps of the claimed method. The judgment below remanding the case to the district court should be affirmed with proper instructions on how to determine infringement under Section 271(b) as well as under Section 271(a).

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AMICUS CURIAE BRIEF

RECORD AND BRIEFS

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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICI CURIAE* BALLY TECHNOLOGIES, INC., BALLY GAMING, INC., AND SHFL ENTERTAINMENT, INC. IN SUPPORT OF RESPONDENTS

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I. STATEMENT OF INTEREST

Bally Technologies, Inc., together with its subsidiaries Bally Gaming, Inc., and SHFL entertainment, Inc. (collectively "Bally"), respectfully submit this brief of *amici curiae* in support of the Respondents.

Bally, based in Las Vegas, Nevada, is a leading global supplier of innovative products and technologies for the gaming industry, including table games, electronic game table systems, electronic betting interfaces, electronic gaming machines, website games, casino utility products, and other casino-based products (collectively "casino-based products and technologies"). For decades, Bally has invested millions of dollars to design, develop, and promote new casino-based products and technologies that are widely used throughout the world. Bally owns a sizeable portfolio of United States patents relating to its casino-based products and technologies, and relies on those patents to protect its significant investments. As a leading recipient and licensor of patents, Bally is committed to maintaining both the integrity of the United States patent system and the quality of the patents themselves. It is Bally's commitment to its patents, as well as the United States patent system as a whole, that has warranted the filing of this *amici* brief.[1]

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1. Pursuant to Supreme Court Rule 37.6, counsel listed on the cover states that this brief was authored by counsel for *amici curiae* and *amici curiae*, and that no counsel for a party authored this brief in whole or in part. Nor did any party or counsel for a party make a monetary contribution intended to fund the preparation or submission of this brief. The Petitioner has given a blanket consent to the filing of this brief, which is on file with the Court. Respondents have also given written consent to the filing of this brief, true and correct copies of which are submitted herewith.

II. SUMMARY OF ARGUMENT

The Petitioner seeks to have this Court adopt a rigid and narrow standard for induced infringement under 35 U.S.C. § 271(b). But the Petitioner's proposed standard is legally unfounded, and if adopted by this Court, could substantially disrupt the patent system as a whole. For example, adopting the Petitioner's rigid standard for induced infringement under 35 U.S.C. § 271(b) could create loopholes in the law effectively encouraging parties to conspire with one another to knowingly infringe a patented method. The Petitioner's rigid standard could also create artificial layers of proof in enforcing duly issued method claims. And contrary to the Petitioner's arguments, more careful claim drafting is not the solution to the problems that could be created by the Petitioner's proposed standard.

Bally respectfully submits that this Court should affirm the Federal Circuit's sound *en banc* holding that if a party induces others to collectively perform the steps of a patented method, regardless of whether one or more steps were carried out by the party itself, then the inducing party should be held liable for induced infringement under § 271(b).

III. ARGUMENT

A. Infringement Under § 271(b) Should Not Include Artificial Restrictions

35 U.S.C. § 271(b) states:

> Whoever actively induces infringement of a patent shall be liable as an infringer.

Section 271(b) should not be limited to infringement by a single entity. Nor should § 271(b) be limited to permit infringement of a patent involving joint actors when the inducer has also participated in the underlying infringement. There is simply nothing in the statute's language that supports such a restrictive reading. Indeed, this Court has repeatedly cautioned that courts "should not read into the patent laws limitations and conditions which the legislature has not expressed." *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) (quoting *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)).

Moreover, § 271(b) was expressly "designed to 'codify in statutory form principles of contributory infringement' which had been 'part of our law for about 80 years.'" *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S.Ct. 2060, 2065-2066 (2011) (internal quotations omitted). Under that body of law, infringement was treated as a tort. *See, e.g., Carbice Corp. of Am. v. American Patents Dev. Corp.*, 283 U.S. 27, 33 (1931) ("Infringement, whether direct or contributory, is essentially a tort.").

The case law following § 271's enactment has similarly treated induced infringement of intellectual property rights as a tort. *See, e.g., Aro Mfg. Co., Inc. v. Convertible Top Replacement Co., Inc.*, 365 U.S. 336, 500 (1961) ("[A] contributory infringer is a species of joint tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff."); *Inwood Labs. Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 854 (1982) (if manufacturer intentionally induces another to infringe a trademark, the manufacturer is contributorily liable for trademark infringement); *MGM Studios Inc. v. Grokster,*

Ltd., 545 U.S. 913, 935 (2005) (patent or copyright defendant who invokes infringing use by advertisement is liable for infringement).

Under the common law of torts, when a person "does a tortious act in concert with the other or pursuant to a common design," or "permits the other to act upon his premises or with his instrumentalities, knowing or having reason to know that the other is acting or will act tortiously," liability will be found. *See* Restatement (Second) of Torts, § 876(a) and § 877(c). As applied to a patented method, this determination would require a full examination of the parties' activities that combine to perform all steps of the claimed method. This determination will typically be unique in each case. If the entities collectively perform all steps of the patented method with their collective design being the performance of all steps (*i.e.* the entities intend that all of the steps of the method are ultimately performed), then the entities "use" the patented method and infringe the patent.

If nothing else, § 271(b) should be broad enough to prevent absurd results, for example, where an entity will be liable for induced infringement of a method claim when a third party performs all the steps, but will not be held liable for induced infringement when the entity performs one of the method steps itself. The positions taken by the Respondents are consistent with an appropriately broad interpretation of § 271(b), whereas the positions taken by the Petitioner are not.

Overall, Bally completely supports the Federal Circuit's *en banc* analysis of induced infringement under § 271(b), which need not be reiterated here.

B. Adopting the Petitioner's Positions Could Leave a Loophole in the Law

If the Court adopts the Petitioner's positions, then a statutory gap could be created whereby joint actors can knowingly conspire to carry out the steps to a patented method. Among other things, this will force the party asserting a patent to prove additional and artificial elements to establish infringement.

The Petitioner seemingly embraces the idea of creating a legal loophole in the law. In fact, it argues that the patents affected by the loophole "add the least and impose the greatest costs." *See* Pet. Br., p. 49. It also argues that innovation will actually be encouraged by the loophole's creation by curbing the excessive enforcement of patents embodying little if any innovation. *Id.* at 47. Bally rejects the Petitioner's myopic view.

Patents involving interactive recreational activities have been issued and enforced for well over 100 years in the United States. For example, the now famous Milton Bradley obtained a patent to "Improvements in Games of Cards" as far back as November 26, 1872. *See* U.S. Patent No. 133,296. As another example, the board game Monopoly was patented by Charles Darrow in 1935. *See* U.S. Patent No. 2,026,082. The patent system has always encouraged individuals to innovate for products and methods involving interactive recreational activities. Indeed, it is difficult to imagine anyone who has not been touched by one of these patented innovations.

Bally provides its casino customers with proprietary table games, electronic table systems, which include

electronic multi-player table game platforms, card shufflers, and electronic gaming machines. Bally has invested a significant amount of resources into its intellectual property and has a sizeable portfolio of United States patents relating to its casino-based products and technologies. It also manages an extensive licensing program based on its patent portfolio.

Bally's patents in many instances cover methodologies where various steps necessarily occur with the actions of several actors. These patents were duly issued by the United States Patent and Trademark Office, and they clearly delineate the types of actions that need to be taken by the actors to infringe. Further, these patents encompass innovative concepts that others routinely seek to copy. And yet, if the Petitioner's positions are adopted by this Court, then it may become necessary for Bally to jump through artificial hoops to enforce its patents against willful infringers. There is nothing in either the statute's language or the legislative history that even remotely suggests that Congress intended this result when it enacted § 271(b).

It is submitted that this problem is not unique to Bally since many modern processes involve collaboration and interaction between separate entities. Thus, the statutory gap potentially created by this Court if it adopts the Petitioner's positions could also negatively affect technical innovations involving, *inter alia*, the internet, networked processes, cloud computing, e-commerce, healthcare services, etc. As time goes by, and technologies advance, the legal loophole will only get larger, not smaller. The existence of this statutory gap, the size of which may actually be larger than anyone currently expects,

can be eliminated if this Court adopts an approach to determining infringement under § 271(b) that is in accord with the Federal Circuit's *en banc* decision at issue here.

C. Better Claim Drafting Is Not an Appropriate Solution

The Petitioner suggests that better claim drafting is the solution to closing the statutory gap described herein. It is not.

First, in many instances, drafting claims to target a single entity will be inherently difficult, and will require artificial, awkward, and/or ambiguous terms to be used by the draftsperson. Forcing a draftsperson to artificially draft awkward and/or ambiguous claims does not benefit anyone. From the inventor's perspective, the full potential scope of the patented invention may be inadvertently surrendered by trying to draft artificial claims targeting specific single entities. From the perspective of the entity being accused of infringement, the awkward and/or ambiguous claim language may actually be abused by entities asserting the patent by expanding the scope of the claim in ways that were not originally envisioned by the inventor. What is needed from patent claims is more clarity, not less. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 723 (2002) ("To enable a patent holder to know what he owns, and the public to know what he does not, the inventor must describe his work in 'full, clear, concise, and exact terms.'") (citing 35 U.S.C. § 112).

Second, to ensure that the full potential scope of the patented invention is properly being claimed, inventors

will be advised to recite more claims in their patent applications as to ensure that all potential infringers are covered. The increased filing and prosecuting costs associated with presenting additional claims to the United States Patent and Trademark Office may easily be absorbed by larger corporations, but this will create undue hardships for smaller entities and individual inventors. There is nothing about § 271 that supports this inequity.

Finally, in many instances, it will simply be impossible to predict every conceivable way that a motivated copyist may try and evade infringement through the use of joint activities. A patent owner should not lose valuable patent rights based on a claim draftsman's ability to read tea leaves.

D. Adopting the Petitioner's Arguments Would Result in an Improper Confiscation of Patent Rights

The Supreme Court has warned that "courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community." *Festo*, 535 U.S. at 739, (citing *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28 (1997)). In Bally's view, deciding this appeal in the Petitioner's favor would undoubtedly disrupt the expectations of the inventing community.

Overall, this Court should not arbitrarily put roadblocks in the path of valuable patent protection that has historically been granted to those who innovate in the domestic gaming industry. Such roadblocks will cause harm to those who have relied upon the patent system to first protect their innovations by filing and obtaining

patents, and then protect their valuable innovations by providing a straightforward way to enforce the granted right to exclude.

CONCLUSION

Bally respectfully takes the position that the Court should affirm the Federal Circuit's *en banc* decision at issue here.

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AMICUS CURIAE BRIEF

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LIMELIGHT NETWORKS, INC.,
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v.
AKAMAI TECHNOLOGIES, INC., *ET AL.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF BIOTECHNOLOGY INDUSTRY ORGANIZATION AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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INTEREST OF *AMICUS CURIAE*

The Biotechnology Industry Organization (BIO) is a trade association representing over 1,100 companies, academic institutions, and biotechnology centers.[1] BIO members are involved in the research and development of biotechnological healthcare, agricultural, environmental and industrial products. In the healthcare sector alone, the biotechnology industry has more than 370 therapeutic products currently in clinical trials being studied to treat more than 200 diseases. The vast majority of BIO members are small companies that have yet to bring a product to market and attain profitability.

BIO has a great interest in this case because its members must rely heavily on the patent system to protect their platform technologies, their commercial embodiments, and to grow their businesses in the decades to come. Enforceable patents that cannot be easily circumvented, and that can be predictably enforced against infringers, enable biotechnology companies to secure the financial support needed to advance biotechnology products through regulatory approval to the marketplace, and to engage in the partnering and technology transfer that is necessary to translate basic life science discoveries into real-world solutions for disease, pollution, and hunger. Proprietary biotechnological

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[1] Pursuant to Supreme Court Rule 37.6, the *amicus* affirms that no counsel for a party authored this brief in whole or in part, no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief, and no person other than the *amicus* or its counsel made such a monetary contribution. Petitioner's consent to the filing of *amicus* briefs is on file with the Clerk. Respondent's letter of consent is being filed with the Clerk of the Court together with this brief.

processes, and method patents that protect them, often count among a biotechnology company's most valuable business assets. The steps of such processes can often be practiced by different entities. Consequently, patent claims to such processes are often capable of being practiced separately, and BIO members have a strong interest in clear, ascertainable rules of infringement liability that discourage parties from circumventing infringement liability by dividing up their otherwise infringing activities. Accordingly, BIO submits this brief to assist this Court's longstanding efforts to guide the evolution of patent law in a tempered, predictable way that will accommodate new emerging technologies to the benefit of all and guard against unforeseen consequences that might cripple reasonably-based business expectations in the life sciences.

SUMMARY OF THE ARGUMENT

The Federal Circuit correctly held that a party may be found liable for inducing patent infringement if the patentee has shown that the patent is in fact being infringed. The Federal Circuit was equally correct in holding that liability for inducing infringement can exist if multiple induced parties together infringe a process claim – even if those parties are not in a master and servant, agent and principal, or equivalent relationship with each other.

BIO submits that the only precondition for finding indirect infringement is that the accused infringing conduct must in fact infringe the patent, *i.e.*, the combined actions of others alleged to be "induced" by the accused party must meet every element of the claim. If every limitation of the claim is practiced, the required showing for an inducement

infringement claim can then be made, fully consistent with this Court's holding in *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011), where the steps of the claim are practiced by a single or by multiple entities, with or without the participation of the accused party.

ARGUMENT

I. THE SINGLE ENTITY RULE SHOULD NOT BE THE STANDARD FOR DIVIDED INFRINGEMENT LIABILITY.

A. The Statute Does Not Support Application Of The Single Entity Rule.

Where, as here, the statute is unambiguous, it must be interpreted based on its plain and ordinary meaning. *See also Hardt v. Reliance Std. Life Ins. Co.*, 130 S. Ct. 2149, 2156 (2010). The patent statute does not require that a single actor perform all the steps of a method claim for infringement liability to exist. The provisions relating to infringement liability are set forth in 35 U.S.C. § 271. For direct infringement, section 271(a) states: "*Whoever* without authority makes, uses, offers to sell, or sells any patented invention, within the United States . . . during the term of the patent therefore, infringes the patent." (Emphasis added.) The two provisions relating to indirect infringement also use the same "whoever" term. Section 271(b), relating to induced infringement, provides: "Whoever actively induces infringement of a patent shall be liable as an infringer."[2] In the decision below, the Court of Appeals held that:

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[2] Section 271(c), pertaining to contributory infringement, states: "Whoever offers to sell or sells within the United States or

> Recent precedents of this court have interpreted section 271(b) to mean that unless the accused infringer directs or controls the actions of the party or parties that are performing the claimed steps, the patentee has no remedy, even though the patentee's rights are plainly being violated by the actors' joint conduct. We now conclude that this interpretation of section 271(b) is wrong as a matter of statutory construction, precedent, and sound patent policy....
>
> ... To be clear, we hold that all the steps of a claimed method must be performed in order to find induced infringement, but that it is not necessary to prove that all the steps were committed by a single entity.

Akamai Techs., Inc. v. Limelight Networks, 692 F.3d 1301, 1306 (Fed. Cir. 2012) (en banc). BIO believes that the decision should be affirmed.

The word "whoever" in section 271(b) is not limited to a single actor, but instead includes multiple actors, consistent with common usage[3] and statutory construction. Congress mandates that

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imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer."

[3] *See, e.g.*, American Heritage College Dictionary 1540 (3d ed. 1997).

words will generally be understood to include their plural form. 1 U.S.C. § 1.[4] The term "whoever" is not limited to a single actor.

Further, Congress clearly did not intend to limit the term "whoever" to the singular, as illustrated by treatment of the term in the context of joint inventors. The term "whoever" is used in 35 U.S.C. §§ 101, 161, and 171 in reference to inventors, embracing both the singular and plural. It is well-established that an individual inventor need not have conceived every element of a claimed invention. To the contrary, patent law properly accounts for the efforts of multiple individuals who each contribute steps or elements that are combined in a single invention, calling each an inventor, and giving each an undivided ownership interest in the whole.[5] As

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[4] 1 U.S.C. § 1, in pertinent part, states: "In determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things; . . . the words "person" and "whoever" include corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals ...." *See also Barr v. United States*, 324 U.S. 83, 91 (1945); *United States v. Oregon & C.R. Co.*, 164 U.S. 526, 541 (1896).

[5] 35 U.S.C. § 116 ("When an invention is made by two or more persons jointly, they shall apply for patent jointly and each make the required oath, except as otherwise provided in this title. Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent."); *see also Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) ("A patented invention may be the work of two or more joint inventors. *See* 35 U.S.C. § 116 (1994). Because '[c]onception is the touchstone of inventorship,' each joint inventor must generally contribute to the conception of the invention."); *id.* at

the complexity of the endeavor expands, collaborative inventions naturally are more common as the solution to the problems encountered require greater teamwork. In the biotechnology sector, such collaborative inventions are the norm. Thus, if the term "whoever" denotes multiple individuals who join in an act of invention, the same must be true of individuals who join in an act of infringement. To hold otherwise would be illogical, violating congressional intent as well as longstanding principles of statutory construction.

B. The Narrow Construction Of Direct Infringement Warrants Rejection Of The Single Entity Rule For Induced Infringement.

Because direct infringement is a strict liability tort, the state of mind of a direct infringer is irrelevant to determining liability. Thus, in *Muniauction, Inc. v. Thompson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), the Federal Circuit narrowly construed direct infringement under 35 U.S.C. § 271(a), requiring a single party to direct or control the infringing acts of all infringing parties. This requirement was imposed because of the court's concern that the strict liability of § 271(a) might provide harsh outcomes when collaborating individuals and companies were unaware of the patent. Nevertheless, that construction mandates that § 271(b) should be construed to reach acts of divided infringement. The Federal Circuit has held that liability for direct infringement under § 271(a) attaches when one party performs every step of a

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1465 ("in the context of joint inventorship, each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions.").

method claim or when multiple parties work together to perform every step of a method claim. *Id.* at 1329. But concerns over strict liability led the Federal Circuit to impose the requirement that a single party direct or control the infringing acts of all the infringing parties, acting as the "mastermind." *Id.* The test is limiting, requiring the existence of an agency relationship or an equivalent contractual relationship establishing a single party's control over the infringing acts. *Id.* But to condition a showing of inducement, which is demanding in itself, on first meeting the same restrictive standard would unfairly injure patent holders, provide a windfall for inducers of infringement, and stifle innovation.

The narrow construction of § 271(a) therefore necessitates that infringement under § 271(b) not be constrained by the single-controlling entity rule. BIO submits that the Federal Circuit correctly held that as long as all the elements of a knowing inducement claim are met, liability should not turn on whether the steps of a process claim were practiced by a single or multiple entities. To hold otherwise would leave the patent holder without remedy, and would encourage infringers to divide up the steps of an infringing process or method between multiple parties. For example, assume three "induced infringement" scenarios involving a patented method:

1. A actively induces B's practice of all method steps;

2. A actively induces B's practice of all but one step, and C's practice of the remaining step; or

3. A actively induces B's practice of all but one step, and practices the remaining step himself.

Assuming there exists inducement liability under the first scenario featuring a single primary infringer, there would be no reason to deny liability if the inducer, with the same specific intent and state of mind, chose to either practice a claim step himself or delegate it to a third party. The single entity rule would unreasonably shield the infringer in scenarios two and three.

Likening patent infringement to the trespass upon land[6], this is akin to a trespasser walking across the land or carrying others who at some point will walk across the land, the tort of trespass arises in either scenario. Or consider the following hypothetical: A, B, C and D go for an alcohol-soaked joyride. A operates the footpedals, B steers from the passenger seat, C operates the stick shift from behind, and D brought the alcohol and talked them into it. When they get pulled over, they argue absence of liability because no one person operated the car.

Another example would be a medical diagnostic method claim: A delivers a sample to B, which could be step 1 of the claim (collection and analysis for a marker), but instead of analyzing, B induces C to perform the analysis step and deliver the results directly back to A for step 2 of the claim (correlation of marker to treatment). A induces B and B induces C. Neither induces all of the infringing

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[6] *See Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917) (explaining that the "scope of every patent ... have been aptly likened to the description in a deed"); *United States v. Société Anonyme des Anciens Établissements Cail*, 224 U.S. 309, 311 (1912) ("the question being only for the present whether such use was a trespass upon the rights of the claimant....").

steps, but together A and B are in an enterprise that results in the practice of the claim, *i.e.*, infringement. The narrow "mastermind" construction of *Muniauction* could be easily thwarted by conspiring joint tortfeasors A and B, shielding them from liability.

Inducement requires an infringement, but not a single infringer. The predicate showing of direct infringement is made if the accused method incorporates every step of the claim. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40 (1997). Nothing in Supreme Court jurisprudence suggests that the predicate act of infringement can only be undertaken by a single entity. Consistent with this Court's *Global-Tech* decision, inducement liability correctly attaches when the inducer knowingly induced one or more third parties alone, or together with the inducer, to infringe a patent claim. *Global-Tech*, 131 S. Ct. at 2068. Neither *Global-Tech* nor the text of § 271(b) requires imposition of the single entity rule for liability to attach, nor do they militate that the strict "direction or control" test apply to the standard for inducement. This Court specifically rebuked such a strict standard under § 271(b), challenging arguments for strict standards that would protect parties who actively encourage others to violate patent rights. *Id.* at 2069 n.8. Such a requirement would effectively stack one demanding test onto another for those seeking to bring a successful inducement claim. The patentee would have to show: (1) the presence of all claim elements in the accused process for infringement, *plus* (2) control or direction between the actors for the predicate finding of direct infringement, *plus* (3) knowledge of the patent and specific intent to infringe for an inducement finding.

Congress wrote § 271(b) before the existence of the single entity rule and there is no support for any suggestion that Congress intended this stricter test to apply.

Should the Court reject the Federal Circuit's inducement-only rule, the Court should grant Respondents' cross-petition to reconsider the proper test for "joint" or "divided" direct infringement. If patentees are given no remedy for divided infringement under section 271(b), then direct infringement liability should be decided more flexibly. To wit, section 271(a) should not be read to preclude all liability when parties act in clear concert to practice the steps of a patented process claim.

Liability for direct patent infringement of one actor who performed one or more, but not all, of the steps of a patented method should largely depend on the nature of the actions performed, the relative position of the actors, and on whether it is fair, under the circumstances, to hold one or more of the actors liable for infringement. To always require a formal agency relationship or a controlling party would, in too many circumstances, permit culpable parties to profit from another's invention without themselves risking a charge of direct infringement. A finding of direct infringement would be proper if all of the steps of the claimed method are performed by one entity or by multiple entities in combination with one another.

II. THE FEDERAL CIRCUIT'S RULE UNDER SECTION 271(b) FOR INDUCEMENT OF DIVIDED INFRINGEMENT DOES NOT AFFECT THE NOTICE FUNCTION OF PATENTS.

Petitioner makes the unpersuasive argument that interpreting § 271(b) to include divided

infringement will undermine a party's ability to evaluate potential infringement. (Pet. Br. at 43-45). Because the steps of the method may be performed by multiple parties, Petitioner argues there may be no way for a party to know whether, in combination with another's activities, it is performing each method step. *Id.* at 43. The effect of this argument would be to subvert the notice function of the patent system where parties performing individual method steps could be held strictly liable. The Petitioner's argument is wrong because it fails to appreciate the safeguard on such a scenario exacted by the *Global-Tech* standard. The mental state required for inducing infringement under § 271(b) is a specific intent by the defendant to induce the acts that constitute infringement and in addition, that the defendant knew (or is chargeable with knowing) that the induced conduct would be infringing. *See Global-Tech*, 131 S. Ct. at 2068. The specific intent requirement alleviates any concern that a party could be liable for unknowingly inducing infringement under § 271(b) and further provides a framework by which a party may evaluate infringement in relation to its arrangements with other parties performing steps of a particular method.

Further, as discussed below, the suggestion that patentees should draft claims to capture infringement by a single party would in no way alleviate the issue Petitioner identifies with the notice function of patents. Because virtually any process claim having more than one step is capable of being divided up among multiple entities, the only process claim that could assuredly be practiced and infringed by only a single entity would be a claim having only one step. This type of claim drafting

would result in increased use of functional or passive claim language, which puts parties on no better – and sometimes less – notice than if claim limitations were recited explicitly as discrete steps of the process. To illustrate: assume a chemist invents a new process for making chemical substance X. The process requires mixing starting material A into starting material B, heating the resultant mixture, stirring it, and extracting the reaction product X. The claim would logically be written as "a method for making X, having the steps of (1) mixing A into B; (2) heating the resulting mixture; (3) stirring the heated mixture; and (4) extracting reaction product X." But because infringing competitors could simply avoid this claim by dividing the process amongst them, the claim would have to be written, for example, as "a method for making X, having the steps of (1) receiving a prepared mixture, said mixture having been prepared by mixing A into B, heating, and stirring; and (2) extracting reaction product X from said mixture." Such a claim would be infringed by an entity that practices only the final extraction step – even if such entity received the prepared mixture from others without knowing how the mixture was prepared.

Such an infringing entity could fairly conclude it was not in any way helped by Petitioner's exhortation that process claims could simply be drafted "differently" to capture a single entity. The ability to obtain a freedom to operate opinion on process claims drafted with single or minimal steps, and incorporating functional or passive language, would be no less, and perhaps more difficult to investigate than for claims having multiple, discrete steps. At bottom, Petitioner's suggestion to write

claims "differently" cannot lead to better notice function.

III. CREATIVE CLAIM DRAFTING WOULD NOT SOLVE THE PROBLEMS CREATED BY THE SINGLE ENTITY RULE.

Requiring patentees to draft process claims such that they would always capture infringement by a single party is impracticable. This suggestion fails to appreciate that the addition of claim steps may be necessary for patentability, just as eliminating claim steps to formulate a "single entity" claim may create validity issues. Some methods are simply not capable of being drafted in a manner that requires the practice to be performed by one entity. Indeed, the benefits of specialization and economies of scale suggest that having separate entities perform individual or discrete acts may be the most efficient manner to perform certain methods. Far from following the dictates of Congress that everything under the sun produced by man be patentable subject matter, limiting inventions to only those that can be formulated as "single entity" claims unduly hampers the patent system. The steps of biotechnology method patents, such as manufacturing processes, are routinely contracted out to third parties with special expertise or experience. Method of treatment or drug delivery claims likewise may require the participation of healthcare providers and patients that may not be in a direction-or-control relationship with each other.

The suggestion that a patentee could draft claims to avoid the single entity rule is not viable for process claims. Unlike process claims, claims to "things" (machines, manufactures, and compositions) essentially always have recourse for infringement

because there inherently must be a single entity that completes or finishes the assembly of the patented thing. Process claims, on the other hand, are capable of being divided up, and the patented process sometimes inherently involves multiple actors. Petitioner relies on *Global-Tech, Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972), and *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961), to argue that there can be no finding of indirect infringement without a direct infringer. (Pet. Br. at 27-31). These cases all involve *product* claims and are therefore inapplicable to the issue of indirect infringement of a *process* claim.

The concept that multiple parties "together" practice – and infringe – a patented process is in no way a recent phenomenon, as the government claims. (Br. of United States at 14). It is as old as the Patent Act itself. A review of case law shows that joint infringement of process claims is not a novel occurrence. In joint infringement situations, courts have long scrutinized the actors' relationship, level of cooperation, and connection to determine liability.[7]

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[7] *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 188 (1980); *On Demand Machine Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1345 (Fed. Cir. 2006) ("Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method."); *Peerless Equip. Co. v. W.H. Miner, Inc.*, 93 F.2d 98 (7th Cir. 1937); *Cordis Corp. v. Medtronic AVE, Inc.*, 194 F. Supp. 2d 323 (D. Del. 2002); *Shields v. Halliburton Co.*, 493 F. Supp. 1376, 1387 (W.D. La. 1980) ("When infringement results from the participation and combined action of several parties, they are all joint infringers and jointly liable for patent infringement."); *E.I. DuPont De Nemours and Co. v. Monsanto Co.*, 903 F. Supp. 680, 735 (D. Del. 1995) ("[A] party cannot avoid liability for infringement by having someone else perform one or more steps

The relative scarcity of opinions prior to 2007 does not in any way indicate that multi-party infringement did not occur – only that it was not raised as a defense. And even when it was raised in the lower courts, the even greater scarcity of appellate opinions shows that the issue was only rarely appealed. By all indications, divided infringement was not "a problem" for the courts and was historically not viewed as a viable tool for evading liability. This changed in 2007, with the creation of the single entity rule by the Federal Circuit. In *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007), the appellate court required the existence of a single direct infringer, yet noted that there was "no law on point from [the] court governing direct infringement by multiple parties performing different parts of the single claimed method . . . ." The Federal Circuit therefore did not abandon long-standing law regarding inducement by rejecting the single entity rule under § 271(b) in the underlying case. And most importantly, because the single entity rule was only created in 2007, Congress did not, and could not, have drafted § 271(b) in 1952 with the understanding that inducement is only viable if the single entity rule is first satisfied with respect to the underlying direct infringement. This Court is therefore not compelled by any controlling precedent to reverse the Federal Circuit's interpretation of § 271(b).

Process patents are of extreme importance in biotechnology, but it is a simplistic fallacy to argue that processes can be collapsed into single step claims – or otherwise written "differently" to capture

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of a patented process for them."); *Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F. Supp. 207 (D. Conn. 1973).

only a single entity – and still provide the protection the patent system requires. Moreover, as the Court can appreciate, it is frequently the combination of process steps that is inventive, not just some single isolated step. *See Diamond v. Diehr*, 450 U.S. 175, 188 (1981) (stating that "a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.").

Consider, for example, the invention that arguably launched the field of biotechnology: cutting out pieces of DNA of one organism and splicing those pieces of DNA into the chromosome of another bacterium. This invention was conceived and reduced to practice by Stanley Cohen and Herbert Boyer in the early 1970s and led to their Nobel Prize in Chemistry in 1980. That invention was the subject of U.S. Patent No. 4,237,224 ("the '224 patent"), composed entirely of method claims. Claim 1 of the patent reads:

> A method for replicating a biologically functional DNA, which comprises:
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> transforming under transforming conditions compatible unicellular organisms with biologically functional DNA to form transformants; said biologically functional DNA prepared in vitro by the method of:
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> (a) cleaving a viral or circular plasmid DNA compatible with said unicellular organism to provide a first linear segment having an intact replicon and termini of a predetermined character;

(b) combining said first linear segment with a second linear DNA segment, having at least one intact gene and foreign to said unicellular organism and having termini ligatable to said termini of said first linear segment, wherein at least one of said first and second linear DNA segments has a gene for a phenotypical trait, under joining conditions where the termini of said first and second segments join to provide a functional DNA capable of replication and transcription in said unicellular organism;

growing said unicellular organisms under appropriate nutrient conditions; and

isolating said transformants from parent unicellular organisms by means of said phenotypical trait imparted by said biologically functional DNA.

To simplify, the method steps call for (1) cleaving a piece of DNA to produce a fragment [a step that was practiced or at least suggested in the work of prior scientists]; (2) combining that fragment with another piece of DNA in a unicellular organism [very similar to steps that occur naturally when certain viruses infect bacteria]; (3) growing the unicellular organism with the combined fragment under appropriate nutrient conditions [the culturing of bacteria had been undertaken since before the days of Louis Pasteur] and (4) isolating the bacteria that have incorporated the novel DNA [isolation of transformed bacterial cells has been known since 1928]. While the single steps, in isolation, would

likely not have been patentable, in combination, they were novel, patentable, and so innovative as to lead to a Nobel Prize. The '224 patent launched a new industry, resulting in over $35 billion in sales for an estimated 2,442 new products. The technology was broadly licensed to 468 companies while it was in force.[8]

Under Petitioner's view of patent law, however, there would have been no need to license the Nobel Prize winning technology because the patent could easily be circumvented by having one party perform steps (1) and (2) of the patented method and then having another party perform the remaining steps (3) and (4). The fact that no biotechnology company took this route to circumvent the patent would suggest that permitting divided infringement to escape liability would run counter to reasonable business based expectations in the biotechnology and patent communities.

The use of biomarkers in medical therapy, in particular, inherently involves the application of biological assays in combination with treatment selection or therapy steps that require the participation of laboratory professionals, physicians, and patients. Importantly, no major clinical trial today is being conducted without a biomarker component. Indeed, in the experience of BIO's members, it is often difficult to procure claims to biomarker-assisted treatment methods without adding claim limitations that are capable of being practiced by a separate entity. For example, biological drugs in the oncology sector are commonly

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[8] M. Feldman, *et al.*, *Lessons from the Commercialization of the Cohen-Boyer Patents: The Stanford University Licensing Program*, available at http://www.ipHandbook.org.

being studied in specific subsets of their intent-to-treat population long after they were first approved for marketing. Such studies may reveal, for example, that a polymorphism of a specific gene predicts treatment success or failure in the patient population.[9]

This finding allows the targeted treatment of those patients who are particularly likely to benefit from the drug, the avoidance of side-effects, and redirection of other patients to alternative therapies. When the drug was in public use prior to this finding, a biomarker-assisted treatment claim drafted to comprise the "administration of the drug to a patient having polymorphism X" would likely be rejected as inherently anticipated. Thus, to properly claim "a new way of using an existing drug," which can be patentable as this Court reminded us in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1302 (2012), such a patent would need to include additional claim steps. In particular, the addition of a biological assay step for treatment allocation based on the newly discovered test may be necessary to confer patentability on the claim. But because laboratory assays and drug administration are typically performed by separate entities, the only claim that would be allowed would also be vulnerable to circumvention under the single entity rule. The patentee would receive a patent to an invention that could not be enforced. All of the expense and effort in prosecuting a patent application would be for naught.

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[9] Polymorphism in biology occurs when two or more clearly different phenotypes (the observable characters of a cell or an organism) exist in the same population of a species. *See, e.g.*, B. Alberts, *et al.*, *Molecular Biology of the Cell* at G27-28 (4th ed. 2002); http://www.biology-online.org/dictionary/Genetic_polymorphism (last visited Mar. 21, 2014).

Statutes should not be construed to produce odd or absurd results. *See, e.g., United States v. X-Citement Video, Inc.*, 513 U.S. 64, 69 (1994). Thus, alternative claim drafting is not an acceptable solution to secure patentability and capture infringement by a single party.

Finally, this Court has determined that certain natural substances are not patentable,[10] instead directing the biotechnology community to rely on method and process claims. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013). Removing the strength of process and method claims as suggested by petitioner would undermine the reasonable business based expectations of biotechnology companies who have relied on the Court's instruction that method claims remain available to protect many of the products of biotechnology. *Id.* at 2119 ("there are no method claims before this Court. Had Myriad created an innovative method of manipulating genes while searching for the BRCA1 and BRCA2 genes, it could possibly have sought a method patent.").

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[10] The March 4, 2014 U.S. Patent and Trademark Office patent examination guidelines acknowledges that this Court's holding in *Myriad Genetics* was limited to DNA, but also extended the Court's holding to "antibiotics, fats, oils, petroleum derivatives, resins, toxins [...]; foods [...] metals [...]; minerals; natural materials (*e.g.*, rocks, sands, soils); nucleic acids; organisms (*e.g.*, bacteria, plants and multicellular animals); proteins and peptides; and other substances found in or derived from nature." Andrew H. Hirshfeld, *2014 Procedure For Subject Matter Eligibility Analysis Of Claims Reciting Or Involving Laws Of Nature/Natural Principles, Natural Phenomena, And/Or Natural Products* (March 4, 2014), available at http://www.uspto.gov/patents/law/exam/myriad-mayo_guidance.pdf.

IV. BIOTECHNOLOGY COMPANIES RELY HEAVILY ON PROPRIETARY PROCESSES TO PROTECT THEIR SIZEABLE INVESTMENTS IN RESEARCH AND DEVELOPMENT AND BENEFIT THE PUBLIC INTEREST.

The Federal Circuit's holding in this case should be affirmed because it protects valuable biotechnology patents. Petitioner would have the Court believe that method patents are essentially worthless, "add[ing] the least and impos[ing] the greatest costs" and involving "little if any technical innovation...." (Pet. Br. at 47). This astonishing assertion is a feeble attempt to bolster its position, which would essentially render many issued and future patents valueless.

Every biotechnology company allocates a significant part of its investment in research and development of process technology, including capital expenditures in brick-and-mortar facilities that cannot be re-tooled because they are specifically designed to practice very particular biological or chemical processes. Establishment licenses, necessary for the operation of cost-intensive pilot plants or full-scale production facilities, depend on process integrity. A specific biological steps process can be critical to meeting the required product specifications and to maintaining a granted Biologics License Application before the Food and Drug Administration.[11] Given such large upfront

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[11] The Biologics License Application (BLA) is a request for permission to introduce, or deliver for introduction, a biologic product into interstate commerce (21 C.F.R. § 601.2). The BLA is regulated under 21 C.F.R. §§ 600-80. A BLA is submitted by any legal person or entity who is engaged in manufacture or an applicant for a license who takes responsibility for

investments and regulatory requirements, a biotechnology company often has to "commit" to a certain process technology from which it cannot afterwards deviate, and without which it could not remain in business.

Innovative and novel process technology can give a manufacturing biotech company a critical advantage over its competitors – and because process technology is often applicable to more than one of a company's products, companies often count process patents among their most valuable business assets. Even for smaller, development-stage biotechnology companies that do not yet produce a product of their own, process patents on innovative platform technologies may be widely licensed in the industry and constitute the company's only source of revenue.

Method patents also play an important role in protecting individual drug and biologic drug products. Large ongoing investments are made in studying new indications and improved methods of delivering such drugs, long after the drug itself has been patented. In BIO's experience, major clinical trials commonly cost well over $100 million, and have been as high as $800 million in some cases. Method patents are often the only feasible way to protect these investments.

The use and importance of method patents is not limited to the biomedical field. In agricultural and environmental biotechnology, process patents play similar major roles in the production of biofuels

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compliance with product and establishment standards. The requirements for a BLA include applicant information, product/manufacturing information, pre-clinical studies, clinical studies and labeling.

and bio plastics. The innovative use of biomarkers for marker-assisted trait selection in plant breeding and hybridization, for example, is likewise difficult to protect without process patents. Thus, rigid adherence to the single entity rule would invite potential infringers to circumvent a particularly valuable subset of biotechnology patents by "dividing up" the steps of patented methods for separate practice.

V. THE FEDERAL CIRCUIT'S RULE PROTECTS CUSTOMERS AND END-USERS FROM INFRINGEMENT CLAIMS WHILE STILL ALLOWING THE PATENTEE TO PROTECT ITS PATENTED INVENTION.

The Federal Circuit's rule protects innocent customers and end-users, while still providing liability for direct and inducing infringers. Both the direction and control requirement for direct infringement and the Federal Circuit's inducement-only rule protect consumers, end users and customers because it makes clear that many such entities have no liability, even if they practice steps of a patented method. The only parties liable are those who are upstream inducers and those actually culpable in infringing a method patent. These rules promote innovation and economic activity while shielding unknowing third parties from expensive and intrusive patent litigation.

The rules place no increased litigation burden on parties and customers, contrary to the arguments made by the *amici* supporting Petitioner. The *amici* make the unfounded argument that the Federal Circuit's rule will increase patent litigation costs associated with discovery expenses. (*See, e.g.*, Cargill

Br. at 5, 11-16; CTIA Br. at 19-21; Google Br. at 15-17). They argue that discovery from multiple parties to prove a purported inducer's "knowledge" and "intent" will be burdensome and expensive. The *amici*, however, utterly fail to recognize that discovery would occur regardless of whether the single entity rule is in effect. Discovery on the issues of validity and infringement is undoubtedly an expense, yet inevitable in any patent infringement suit, whether direct infringement is committed by one or more parties. Further, the standard for proving inducement infringement under *Global-Tech* is unchanged if direct infringement is required of a single or multiple parties, and a plaintiff may have to seek discovery from third parties in either situation. Third-party discovery, for example, would include communications between those inducing infringement and the customers and end users of the product. Under Petitioner's rule, such third party discovery would have to be, if anything, even more intrusive, involving the communications, agreements and business relationships *between* the direct infringers to establish whether a "direction or control" relationship exists.

Of course, a District Court could manage such discovery to reduce the burden and expense on the third party, as the Rules currently provide. *See* Fed R. Civ. P. 45(d)(1) ("A party or attorney responsible for issuing and serving a subpoena must take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena. The court for the district where compliance is required must enforce this duty and impose an appropriate sanction – which may include lost earnings and reasonable attorney's fees – on a party or attorney who fails to comply."). Therefore, it is unnecessary to

adopt the *amici*'s argument to protect such third parties.

CONCLUSION

For the foregoing reasons, the decision of the Federal Circuit should be affirmed.

Respectfully submitted,

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AMICUS CURIAE BRIEF

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AND
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In the Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF *AMICI CURIAE* CARGILL, INCORPORATED; THE COCA-COLA COMPANY; GENERAL MILLS, INC.; AND HORMEL FOODS CORPORATION IN SUPPORT OF PETITIONER LIMELIGHT NETWORKS, INC.

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INTEREST OF *AMICI CURIAE*[1]

Amici are agriculture, food, and beverage companies that are members of complex supply chains formed of numerous, independent actors. *Amici* all have patents, and all respect the patent rights of others. Yet all are deeply concerned about the adverse consequences of the ruling below. By allowing induced-infringement liability to be imposed on one company for the combined steps of other, independent actors, the decision below dramatically and unjustifiably increases the litigation costs for any company that participates in a complex supply chain, and thus increases the costs of goods provided through such chains.

Amici are submitting this brief to make it clear that the negative consequences of the decision below are not limited to the information-technology context in which it arose. To the contrary, those consequences extend to all industries that depend on supply chains—which is to say, nearly all industries in the modern economy. Indeed, the negative consequences may be greatest in industries that have existed the longest, such as the food and beverage industry to which *amici* belong. In those industries, supply-chain methods have long been performed by multiple, separate actors along the chain, employing processes that are commonly used but largely undocumented in publications. Now, however, with the new ability provided by the decision below to assert inducement liability for divided infringement,

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[1] This brief was not written in whole or in part by counsel for any party, and no person or entity other than *amici* and their counsel has made a monetary contribution to the preparation and submission of this brief. All parties consent to its filing.

patentees will have the incentive to assert multi-actor method claims against supply-chain participants, and claimants will have the incentive to submit new patent applications asserting the combination of methods that have long been practiced by separate participants in the chain. Because there is little prior art directed to methods that work across myriad elements of a complex supply chain, the United States Patent & Trademark Office ("USPTO") will be hard-pressed to reject claims even for long-used, obvious methods, and supply-chain participants will face the prospect of lengthy, fact-intensive litigation to defeat even meritless claims. These serious, negative consequences—and their likely adverse effect on food and beverage prices for consumers—prompted *amici* to submit this brief.

Amicus Cargill, Incorporated, is an international producer and marketer of agricultural, financial, and industrial products and services. Cargill's operations and services include buying, processing, and distributing grain, oilseeds, and other commodities to makers of food and animal nutrition products; providing food and beverage manufacturers, foodservice companies, and retailers with high-quality ingredients, meat and poultry products, and health-promoting ingredient systems; and serving industrial users of energy, salt, starch, and steel products. Founded in 1865, Cargill employs 142,000 people in 67 countries. Cargill helps customers succeed through collaboration and innovation, and is committed to sharing its global knowledge and experience to help meet economic, environmental, and social challenges.

Amicus The Coca-Cola Company is the world's largest beverage company. Founded in 1886, The Coca-Cola Company makes its branded beverage products available to consumers in over 200 countries through a sophisticated network of Company-owned as well as independent bottling and distribution partners which together employ over 700,000 people. Along with its partners, it manufactures, markets, and distributes over 500 nonalcoholic beverage brands, including Coca-Cola, Sprite, Fanta, and Minute Maid. In addition to being the largest sparkling beverage company, it is also the world's largest juice company as well as a leading producer of water, tea, coffee, and energy and sports drinks. Over 1.8 billion servings of The Coca-Cola Company's branded products are consumed each day.

Amicus General Mills, Inc. is one of the world's leading food companies. It manufacturers and markets consumer foods sold through retail stores under such brands as Cheerios, Nature Valley, Pillsbury, Betty Crocker, Hamburger Helper, Old El Paso, Yoplait, and Green Giant. General Mills' product categories in the United States include ready-to-eat cereals, refrigerated yogurts, ready-to-serve soups, dry dinners, shelf stable and frozen vegetables, refrigerated and frozen dough products, dessert and baking mixes, frozen pizza and pizza snacks, grain, fruit and savory snacks, and a wide variety of organic products, including granola bars, cereal, and soup. The principal raw materials that General Mills uses are grains (wheat, oats, and corn), dairy products, vegetables, fruits, meats, sugar, vegetable oils, and other agricultural products. General Mills' ability to acquire raw materials, work with contract manufactures, and make, move, and sell products is critical to its success.

Amicus Hormel Foods Corporation is a multinational manufacturer and marketer of consumer-branded food and meat products, many of which are among the best known and trusted in the food industry. Hormel Foods products are sold under many well-established brands that include SPAM canned ham, Hormel Black Label bacon, Dinty Moore stew, Jennie-O turkey products, and SKIPPY peanut butter. Hormel Foods enjoys a strong reputation among consumers, retail grocers, foodservice and industrial customers for producing products highly regarded for quality, taste, nutrition, convenience and value. A multifaceted supply chain that includes suppliers for hogs, turkeys, ingredients, packaging materials, and transportation is critical to Hormel Foods' operations.

SUMMARY OF ARGUMENT

If the decision below is not reversed, it will have serious, adverse consequences far beyond the information-technology context in which it arose that will extend to all companies that, like *amici*, rely on complex supply chains to supply essential products to American consumers.

Until the decision below, it had been settled law that direct liability for infringement of a method claim—and hence indirect liability as well—could be found only when all steps were performed by a single entity or someone acting under that entity's direction or control. The decision below radically departs from this established law by allowing induced-infringement liability to be imposed on one company based on the combined steps of multiple, independent actors.

By creating a brand new category of liability for divided infringement, the decision below will greatly exacerbate the already severe problem caused by infringement suits brought by existing so-called "patent trolls." The decision below dramatically expands the potential for abusive litigation by exposing supply-chain participants to induced-infringement claims based on the actions of other companies they do not control and that, until notice from the patent troll, they may not have had any knowledge of. *Amici* each rely on robust multi-actor supply chains to efficiently deliver food and beverages to American consumers. Each of them, under the decision below, will be exposed to costly new suits brought by patent trolls.

Once an induced-infringement claim is brought against a supply-chain participant based on a multi-actor method claim, it will not be easily disposed of, either on summary judgment or on second review of the patent in the USPTO, because the prior art for these types of method claims exists largely in the practices of industry participants rather than in patents or publications. In addition, the necessary proof to establish the obviousness of a multi-step method claim may require discovery from multiple companies up and down a supply chain—from growers to processors to packagers to retailers—making the litigation exceedingly expensive even if the defense is ultimately successful. The USPTO, even more than private companies in litigation, will be hard-pressed to weed out unpatentable claims covering multi-actor steps along a supply chain because it lacks the resources and discovery tools to find the relevant prior art. Coupled with the powerful incentives the decision below provides litigants and patent monetizers to seek such

claims, the decision below will lead to a flood of patents, further increasing the costs of baseless litigation that *amici* and others in their industry experience.

If there is to be an expansion of the scope of liability for induced infringement, it should therefore come from Congress, which is better equipped than the courts to determine whether such an expansion is needed and better able to mitigate the serious negative consequences of expanded liability by cabining it within specific limits and requirements of proof.

Amici therefore respectfully ask this Court to reverse the decision below with respect to induced infringement.

ARGUMENT

I. BY ALLOWING INDUCED-INFRINGEMENT LIABILITY BASED ON THE COMBINED STEPS OF MULTIPLE ACTORS, THE DECISION BELOW WILL IMPOSE SIGNIFICANT, UNJUSTIFIED COSTS ON INDUSTRIES THAT RELY ON COMPLEX SUPPLY CHAINS

Until the decision below, it had been settled law that direct liability for infringement of a method claim—and hence indirect liability as well—could be found only when all steps were performed by a single entity or someone acting under that entity's direction or control. *See, e.g.*, *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008). This settled rule is founded on the language of 35 U.S.C. §§ 271(a), 271(b), and 281, and it was confirmed in *Aro Manufacturing Co. v. Convertible Top Replacement Co.*,

in which this Court noted that "it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement," because contributory infringement depends upon the definition of infringement under Section 271(a). 365 U.S. 336, 341 (1961).

The decision below radically departs from this established law by allowing induced-infringement liability to be imposed on one company based on the combined steps of multiple, independent actors. Under the Federal Circuit's new rule, "[i]f a party has knowingly induced others to commit the acts necessary to infringe the plaintiff's patent and those others commit those acts," the party can be held liable for induced infringement under § 271(b). Pet. App. 9a. Under that court's definition of inducement, moreover, "[i]t is enough that the inducer 'cause[s], urge[s], encourage[s], or aid[s]' the infringing conduct and that the induced conduct is carried out." *Id.* at 8a (all but first alteration in original) (quoting *Arris Grp., Inc. v. British Telecomms. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011)). As recognized by the dissent below, the combined effects of these two rules dramatically expand the scope of infringement liability beyond what has ever previously existed. *See* Pet. App. 49a (Newman, J., dissenting) ("[T]he new breadth with which the court infuses the concept [of inducement] is an unwarranted and unsupported enlargement of the law.").

If the decision below is not reversed, its negative consequences will extend far beyond the information-technology context in which it arose to affect all industries that rely on complex supply chains—which

is to say, nearly all industries in the modern United States economy. Industries that have existed the longest, such as the food and beverage industry to which *amici* belong, may well suffer the greatest adverse effects of the decision. To make these consequences clear, *amici* address the application of the decision's new divided-infringement rule to complex supply chains, the negative litigation consequences of that rule for supply-chain participants, and the incentive the rule will create for a flood of valueless new patent claims.

A. The New Liability for Divided Infringement Created by the Decision Below Will Affect the Complex Supply Chains of Developed Industries Far Outside the Information-Technology Context

Petitioner Limelight Networks, Inc., focuses on the consequences of the decision below for the information-technology industry in which it participates. But it is clear to *amici* that those consequences will extend far beyond the information-technology context to affect all industries that rely on complex supply chains, including the food and beverage industry in which *amici* participate. Specifically, by allowing induced-infringement liability to be imposed on one company for the combined steps of other, independent actors, the decision below will expose companies that participate in a complex supply chain to litigation based on the actions of multiple other participants in the chain—even though the target company has no control over those other participants.

The food and beverage industry to which *amici* belong illustrates clearly how the modern economy relies on complex supply chains to supply core food staples and household goods to American consumers. One of the overriding features of the modern agricultural economy is "the evolution of integrated supply chains linking producers and consumers." Linus U. Opara, *Traceability In Agriculture and Food Supply Chain: A Review of Basic Concepts, Technological Implications, and Future Prospects*, J. Food, Agric. & Env't Vol.1(1): 101, 101 (2003). As described in a research report by the United States Department of Agriculture ("USDA"), the domestic food supply chain often contains links for growers, processors, packagers, manufacturers and contract manufacturers, distributors, transporters, retailers, and others. Patrick Canning *et al.*, *Energy Use in the U.S. Food System*, USDA Economic Research Service, Economic Research Report No. 94 (March 2010), at 19-20. A standard agricultural supply chain also can involve inputs from other actors, including storage facilities, branders, and restaurants. *See, e.g.*, Elise Golan *et al.*, *Traceability in the U.S. Food Supply: Economic Theory and Industry Studies*, USDA Economic Research Service, Agricultural Economic Report No. 830 (March 2004), at 22 ("With the exception of a small amount of on-farm feed use (mainly corn), most grains and oilseeds are marketed through a supply chain that includes country elevators, sub-terminal elevators, processors, river elevators, export port elevators, and retailers.").

The food and beverage industry's use of specialized companies acting within robust supply chains is critical to supporting the country's food network and efficiently delivering staples to consumers. The speed and

efficiency provided by such chains have helped to drive the considerable economic output of agriculture and related industries in the United States, which in 2011, the most recent year for which data is available, contributed $742.6 billion to the U.S. gross domestic product. *See* USDA Economic Research Service, *Value added to GDP by agriculture and related industries, 2004-11*, http://www.ers.usda.gov/data-products/chart-gallery/detail.aspx?chartId=40037; *see also* USDA Economic Research Service, *How many jobs in America are related to agriculture?*, http://www.ers.usda.gov/faqs.aspx#jobs (indicating that the farm and agriculture-related industries provided 16,070,600 jobs in 2011).

Complex supply chains such as these are also not unique to the food and beverage industries, but are common among other industries. *See, e.g.*, *Eberspaecher N. Am., Inc. v. Nelson Global Prods., Inc.*, No. 12-11045, 2012 U.S. Dist. LEXIS 52207, at *18 (E.D. Mich. Apr. 13, 2012) ("[T]he potentially catastrophic effects of a disruption in the supply chain of automotive parts is well established in the case law of this court."); Maria Greco Danaher *et al.*, *Emergency Preparedness: What Did We Learn from the H1N1 Scare?*, 3:4, J. Health & Life Sci. L. 117, 119 (2010) (noting "healthcare providers' dependence on supply chains for commercial goods and pharmaceuticals").

B. The Federal Circuit's Decision Will Greatly Exacerbate the Pattern of Baseless but Costly Infringement Suits Against Supply-Chain Participants

Infringement suits brought by so-called patent trolls already impose severe costs on the U.S. economy. The decision below will greatly exacerbate that problem by exposing supply-chain participants to induced-infringement claims based on the actions of other companies they do not control and that, until notice from the patent troll, they may not have had any knowledge of. The intent requirement recognized by the Federal Circuit will provide little protection against such suits because intent can be alleged generally, making induced-infringement suits difficult to dismiss on that ground. Moreover, because little written prior art exists covering multi-actor method claims, supply-chain participants will find it difficult to defeat even baseless claims at the outset, and will instead have to endure the burden of discovery and full litigation—or else pay to settle. *Cf. Bilski v. Kappos*, 130 S. Ct. 3218, 3257 (2010) (Stevens, J. concurring) ("Even if a business method patent is ultimately held invalid, patent holders may be able to use it to threaten litigation and to bully competitors, especially those that cannot bear the costs of a drawn out, fact-intensive patent litigation.").

The severe cost of infringement suits by patent trolls is well known. "An industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees." *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396-97 (2006) (Kennedy, J., concurring).

Patent trolls "focus on aggressive litigation, using such tactics as: threatening to sue thousands of companies at once, without specific evidence of infringement against any of them; creating shell companies that make it difficult for defendants to know who is suing them; and asserting that their patents cover inventions not imagined at the time they were granted." Executive Office of the President, *Patent Assertion & U.S. Innovation* at 1 (June 2013), *available at* www.whitehouse.gov/sites/default/files/docs/patent_report.pdf. As President Obama declared, patent trolls "don't actually produce anything themselves. They're just trying to essentially leverage and hijack somebody else's idea and see if they can extort some money out of them." *Id.* at 2 (quoting President Obama's remarks of February 14, 2013).

Suits brought by trolls "have tripled in just the last two years, rising from 29 percent of all infringement suits to 62 percent of all infringement suits." *Id.* The cost of these suits for American business is staggering—more than half a trillion dollars in lost wealth from 1990 to October 2010, with a mean loss of wealth per troll lawsuit of $122 million. James E. Bessen *et al.*, *The Private and Social Costs of Patent Trolls*, 34 Reg. 26, 31 (2010-11). And most of the suits are baseless; trolls win only 8% of cases that reach the merits. John R. Allison *et al.*, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 694 (2011). In short, "there are a lot of big losers from [troll] litigation, while hardly anyone benefits much." Bessen, *supra*, at 33. Beyond the studies and statistics, *amici* already experience these costs and burdens personally—in the form of litigation

costs, business disruption, and pyrrhic victories in suit after baseless suit.

The decision below takes what is already a significant national problem and makes it worse by creating a new category of claims ripe for trolls to assert—induced-infringement against participants in complex supply chains based on the allegation that the combined actions of two or more independent companies infringed a method claim. The barriers to asserting such a claim are low, given that a plaintiff need not identify any direct infringer in its complaint. *See In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1341-42 (Fed. Cir. 2012). The defendant also need not have controlled the other companies whose actions contributed to the infringement. "It is enough that the inducer 'cause[s], urge[s], encourage[s], or aid[s]' the infringing conduct and that the induced conduct is carried out." Pet. App. 8a (quoting *Arris Grp., Inc. v. British Telecomms. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011)). Nor need the defendant have known of the other companies' actions prior to the suit. Service of a complaint itself provides knowledge sufficient to seek injunctive relief and damages for future infringement, which is all a patent troll needs to get into litigation and put a defendant company at risk. *See, e.g.*, *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 60 (Fed. Cir. 2012) (noting that defendant's first notice of the asserted patent was when the complaint was filed). Supply-chain participants thus can no longer assess their patent-infringement risk simply by reviewing their own actions. They must instead try to review the actions of other members of the supply chain—a task that will often be impossible given the steps companies

take to preserve confidentiality over their own methods and processes.

Once an induced-infringement claim is brought against a supply-chain participant, it will be difficult for the participant to win summary judgment on invalidity or obtain a second review of the patent in the USPTO, even for baseless claims. This is because the prior art for such method claims exists largely in the practices of industry participants rather than in patents or publications. Companies at each level of complex supply chains have developed specialized knowledge of their own processes over the generations. But no company has had the incentive to collect the processes of multiple levels into a single patent or publication because of the settled law limiting infringement to instances where a single entity performed all of the claimed steps of a method. As a result, little published prior art exists that a supply-chain participant could cite as proof that a process covering all or part a supply chain is obvious or anticipated. A supply chain participant facing a suit based on a claim covering multi-actor steps thus will face significant obstacles in proving the claim invalid. Instead of citing patents and publications, the participant will have to take discovery of other companies up and down the supply chain to develop evidence showing that each step of the method has been practiced for years. The fact-specific nature of this inquiry creates ample opportunities for a plaintiff to create fact issues precluding summary judgment, and even if a participant prevails, it will only be at great cost.

The Federal Circuit's confidence that the intent element will deter or depress induced-infringement suits by patent trolls is misplaced. *See* Pet. App. 7a & n.1 (*citing DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (*en banc*)). Intent may be alleged generally, subject only to the pleading requirements of Federal Rule of Civil Procedure 8, making dismissal on that ground difficult to obtain. *Bill of Lading*, 681 F.3d 1323, 1341-42 (Fed. Cir. 2012) (reversing dismissal, finding allegation of intent sufficient). Even at the summary judgment stage, intent to induce infringement "is a factual determination particularly within the province of the trier of fact," allowing plaintiffs to preclude summary judgment simply by creating competing inferences. *See Fuji Photo Film Co. v. Jazz Photo Corp.*, 394 F.3d 1368, 1378 (Fed. Cir. 2005) (*quoting Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F.2d 1556, 1557 (Fed. Cir. 1988)). Finally, although the Federal Circuit has held that "evidence of an accused inducer's good-faith belief of invalidity may negate the requisite intent for induced infringement," *Commil USA, LLC v. Cisco Systems, Inc.*, 720 F.3d 1361, 1368 (Fed. Cir. 2013), the lack of prior art in the form of prior published articles or patents with respect to multi-actor method claims will make it difficult to obtain summary judgment on this basis. *Cf. Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1369 (Fed. Cir. 2006) (affirming jury verdict rejecting good-faith belief in non-infringement as unreasonable and not supported by sufficient evidence).

Expanding inducement liability to cover processes performed by multiple independent actors thus would have real and severe consequences for companies such as *amici* that participate in complex supply chains.

Patent infringement suits are among the more expensive ones brought in federal court, with average direct costs for tried cases ranging from just under $1M for cases with less than $1M at stake, to $2.8M for cases with $1-25M at stake, to $5.9M for cases with more than $25M at stake. *Report of the Economic Survey 2013*, American Intellectual Property Law Association (2013), at I-129-32. Even where cases are resolved before trial, the average costs of such cases for litigating to the end of discovery are $.5M, $1.7M, and $3.6M, respectively. *Id.* In addition, patent suits inflict considerable indirect costs on defendants, diverting resources away from innovation, deterring entry (or promoting exit) from the market, interrupting business activities, introducing costly licensing fees, and driving down the market value of the affected firms by, on average, $28.7 million. *See* James Bessen & Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* 132-38 (2008).

C. The Federal Circuit's Decision Will Result in a Marked Increase in Issued Patents Claiming Steps along Multi-Actor Supply Chains, Even Though Such Methods Are Neither Novel Nor Nonobvious

Because the decision below creates the ability to establish infringement for a new category of activity—methods collectively performed by multiple distinct entities—it establishes powerful incentives for patentees to seek new patents covering such methods and then assert those patents in litigation. The dramatic increase in both applications and litigation after the Federal Circuit's 1998 decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*,

149 F.3d 1368 (Fed. Cir. 1998), is a precursor of what will happen again if the decision below is not reversed—with one modification. Because *State Street* was limited to business-method claims, whereas the decision below will affect method claims generally, the effect of this decision will likely be greater than that of *State Street*.

In *State Street*, the Federal Circuit abrogated the business-method exception for patentable subject matter. As a result, "the proverbial floodgates opened for business method patent applications," Russell A. Korn, *Is Legislation the Answer? An Analysis of the Proposed Legislation for Business Method Patents*, 29 Fla. St. U.L. Rev. 1367, 1370-71 (2002), and the number of applications for patents within U.S. patent class 705—the primary class encompassing business methods, data processing, and financial activity—increased from 927 in 1997 (the year before *State Street* was decided), to 2,821 in 1999 (the year after the decision), to 7,800 in 2000 (the year after this Court denied certiorari in the case). *See* Robert C. Haldiman, *Intellectual Property: Policy Considerations From A Practitioner's Perspective: Prior User Rights for Business Method Patents*, 20 St. Louis U. Pub. L. Rev. 245, 254 n.60 (2001) (citing USPTO statistics); *see also In re Bilski*, 545 F.3d 943, 992 (Fed. Cir. 2008) (Newman, J. dissenting) ("The PTO reports that in Class 705 . . . there were almost 10,000 patent applications filed in FY 2006 alone, and over 40,000 applications filed since FY 98 when *State Street Bank* was decided.").

While the increase in the number of issued business method patents was less pronounced than the increase

in the number of applications, there was nonetheless a significant spike in the number of such patents that issued after *State Street*. In 1997, the year before the Federal Circuit's decision, the USPTO issued 206 patents in Class 705. In 1999, that number more than doubled to 585, and in 2000, the year after this Court denied certiorari, that number had jumped to 899, reflecting a more than 400% increase in such issued patents over three years. Haldiman, *supra*, at 254 n.60.[2] The following chart illustrates the spike in business method patent applications and issuances in the wake of *State Street*:

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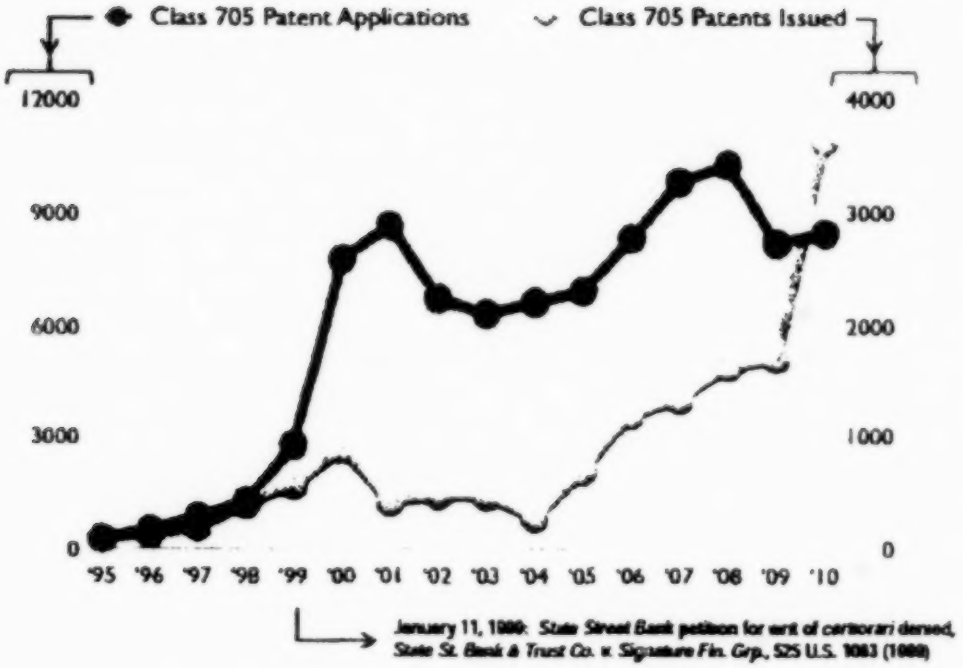
[2] The subsequent drop in the number of patent applications and issued patents in the first half of the last decade was likely due in large part to Congressional and administrative responses to the *State Street* decision, including passage of the First Inventor Defense Act of 1999, which created the safe harbor of 35 U.S.C. § 273, and initiation of a new "BMP Initiative" by the USPTO, which added more examiners and required greater scrutiny and second-level review of Class 705 patent applications. *See Bilski*, 130 S. Ct. 3231 (Stevens, J. concurring) (noting that Congress "quickly responded" to *State Street* by passing the First Inventor Defense Act in order to "limit a potentially significant new problem for the business community"); Jwalant Dholakia, *Reviewing Business Method Patents (BMP's): A Strategic Asset For Companies And Inventors*, 6 Int'l Bus. & Econ. Res. J. 1 (Jan. 2007), at 57-58 (describing the BMP Initiative and other reasons for the decline in business-method patent activity after 2001, including the economy). The decision below, if not reversed, will require similar legislative and administrative responses.



Id.; USPTO, *Class 705 Application Filing and Patents Issued Data*, http://www.uspto.gov/patents/resources/methods/applicationfiling.jsp (last visited Feb. 23, 2014).

The decision below will create similar incentives to submit new patent claims. And unlike business method patents, there currently are no statutory "safe harbors" or mandated patent office second-level reviews in place for multi-actor method claims. *Amici* described above the difficulty private litigants will have in discovering and presenting invalidating prior art. Those problems are only magnified in the context of USPTO evaluations of patent applications. Patent examiners have limited time and resources (by one estimate an average of 18 total hours over the life of a patent's entire prosecution), and thus rely on searchable databases, Mark A. Lemley, *Rational Ignorance at the*

Patent Office, 95 Nw. U.L. Rev. 1495, 1500 (2001), and on "three reference sources"—"domestic patents (including patent application publications), foreign patent documents, and nonpatent literature (NPL)." Manual of Patent Examining Procedure § 904.02 (2012). But as described above, the prior art in multi-actor supply chains exists largely in the practices of separate industry participants rather than in patents or publications found in databases. Without the discovery mechanisms of litigation or the resources of private litigants, the USPTO will thus be hamstrung in its ability to find invalidating prior art, making it likely that invalid patents will issue. *Cf.* Korn, *supra*, at 1372-73 (describing the similar problems faced by the USPTO after *State Street*). And once that happens, the USPTO's reexamination and inter partes review procedures will be of little help to defendants, because they are expressly limited to patents, printed publications, and (in the case of reexamination) relevant statements of the patent owner filed in a federal court or USPTO proceedings. *See* 35 U.S.C. §§ 301, 302 (reexamination); § 311(b) (inter partes review).

At the same time, the flood of patent applications will further drain the USPTO's resources, increasing the likelihood that patents will issue claiming multi-actor method steps that are neither novel nor nonobvious. *See* Michael J. Meurer, *Business Method Patents and Patent Floods*, 8 Wash. U. J.L. & Pol'y 309, 322-26 (2002) (describing how patent floods strain the USPTO's resources, resulting in poor quality issued patents, and thus increase uncertainty about the scope and validity of patents); Bronwyn H. Hall, *Business and Financial Method Patents, Innovation, and Policy*,

National Bureau of Economic Research, Working Paper No. 14868, at 15-17 (2009) (describing the characteristics of low quality patents, the causes for their issuances, and their consequences on innovations and costs). The result will be an increase in already costly litigation asserting such claims, particularly by patent trolls. *See The Growing Use of Business Method Patents in NPE Litigation*, Patent Freedom, *available at* https://www.patentfreedom.com/about-npes/blog/the-growing-use-of-business-method-patents-in-npe-litigation/ ("Since 2004, the number of companies facing business method patents in litigation with NPEs has grown at 28% per year. While NPE litigation has clearly been growing during this period, the share of suits that involve business method patents has also grown quite dramatically, from 27% of defenses in 2005-2006 to 41% in 2011-2012.").

II. ANY DECISION TO EXPAND LIABILITY FOR INDUCED INFRINGEMENT SHOULD BE MADE BY CONGRESS

This Court is justifiably reluctant to change settled interpretations of federal statutes, even in the ordinary case, out of deference to Congress. It is particularly reluctant to do so in a way that expands the scope of the patent privilege and takes material out of the public domain. And its respect for *stare decisis* reaches its apex when industries have relied on the existing interpretation, as industries have here in structuring their supply chains based on an expectation that actions by multiple, independent actors could not be combined to yield a finding of induced infringement. If any change to the rules of induced infringement is to be made, it should therefore be made by Congress.

As a general matter, "Congress," not this Court or any lower court, "has the responsibility for revising its statutes. Were we to alter our statutory interpretations from case to case, Congress would have less reason to exercise its responsibility to correct statutes that are thought to be unwise or unfair." *Neal v. United States*, 516 U.S. 284, 296 (1996). Even when a prior statutory interpretation may be in error, "[s]tare decisis is usually the wise policy because in most matters, it is more important that the applicable rule of law be settled than that it be settled right." *Square D Co. v. Niagara Frontier Tariff Bureau, Inc.*, 476 U.S. 409, 424 (1986) (*quoting Burnet v. Coronado Oil & Gas Co.*, 285 U.S. 393, 406, (1932) (Brandeis, J., dissenting).

In the patent field in particular, this Court has cautioned that precedent construing the scope of statutory patent rights should be left undisturbed

> unless the argument for expansion of privilege is based on more than mere inference from ambiguous statutory language. We would require a clear and certain signal from Congress before approving the position of a litigant who, as respondent here, argues that the beachhead of privilege is wider, and the area of public use narrower, than courts had previously thought.

Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 531 (1972) *superseded on other grounds by statute*, Patent Law Amendments Act of 1984, Pub. L. No. 98-622, 98 Stat. 3383 (codified at 35 U.S.C. § 271(f)), *as recognized in Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007).

The importance of deferring to settled statutory interpretation reaches its apex when a prior interpretation "has engendered substantial reliance and has become part of the basic framework of a sizable industry." *Quill Corp. v. North Dakota ex rel. Heitkamp*, 504 U.S. 298, 317 (1992); *see also Allied-Signal, Inc. v Dir., Div. of Taxation*, 504 U.S. 768, 785 (1992) (declining to "defeat the reliance interest of those corporations that have structured their activities and paid their taxes based upon the well-established rules we here confirm."). That is exactly the situation here. Precisely because the courts have not previously imposed induced-infringement liability across multi-actor supply chains, those supply chains have developed organically to involve arms-length relationships among their participants, who rarely had reason to comprehensively investigate or document the aggregate processes collectively employed. As described above, this structural reliance on the previous rule is both pervasive and economically desirable in food-and-beverage supply chains as well as many others. Thus, if there is to be a decision to create inducement liability for divided infringement, it should come from Congress, not the courts.

In claiming for itself the role of amending the law of induced infringement, the majority below expressed concern that the change was necessary to prevent parties from evading liability for indirect infringement by "structur[ing] their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement." Pet. App. 9a. But deciding whether the risk of evasion of the existing rules justifies the extraordinary costs described above of expanding the rules is a quintessential legislative

judgment that rests on the type of fact finding and policy determinations that courts are ill-suited to perform. None of the undersigned *amici*, for example, have perceived any attempt by competitors or others in their industries to evade method patents that *amici* hold by dividing the steps among multiple companies. As a practical matter, it is infeasible for companies to do so. To the extent the activities of other actors along a supply chain are even known, each company acts at arm's length in its commercial relationships and structures them according to independent business considerations and market forces. No evidence in the record below would have enabled the Federal Circuit to determine, contrary to *amici*'s experience, that a gap in enforcement justified a wholesale change in the law of induced infringement.

Finally, when the decision to expand a statute is left—as it should be—to Congress, Congress can tailor the expansion to fit the scope of the issue it finds. Particularly in situations that require fine-tuned rules, "Congress would likely have wanted to decide explicitly whether, or just where and when, to expand the statute's [provisions], rather than delegate to the courts a generalized power to do so wherever a court concludes that equity so requires." *United States v. Brockamp*, 519 U.S. 347, 352-53 (1997). Congress's codification of contributory infringement liability in the Patent Act illustrates this point precisely. Congress decided to extend contributory liability to entities that sell or import "a material or apparatus for use in practicing a patented process," but it expressly limited that new liability to instances in which the material or apparatus constitutes "a material part of the invention" and the accused infringer knows that the component is

"especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. § 271(c). Unlike the blanket rule created by the decision below, this tailored approach "leaves breathing room for innovation and vigorous commerce," *MGM Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 933 (2005), and ensures that patentees do not extend their monopoly beyond the limits of their specific grant, *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 441 (1984). If there is to be a corresponding expansion of inducement liability, it should similarly be left to Congress.

Accordingly, this Court should reverse the decision below recognizing liability for induced infringement even where no single entity is liable for direct infringement. For the same reasons, to the extent the Court considers divided infringement in the context of direct infringement under Section 271(a) pursuant to the conditional cross-petition, the Court should leave in place existing law that "[a]bsent an agency relationship between the actors or some equivalent . . . a party that does not commit all the acts necessary to constitute infringement . . . [is not] liable for direct infringement." Pet. App. 6a.

CONCLUSION

For the foregoing reasons, *amici curiae* respectfully request that the Court reverse the decision below with respect to induced infringement under 35 U.S.C. § 271(b).

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AMICUS CURIAE BRIEF

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IN THE
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., ET AL.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

BRIEF OF THE CLEARING HOUSE AND THE FINANCIAL SERVICES ROUNDTABLE AS AMICI CURIAE IN SUPPORT OF PETITIONER LIMELIGHT NETWORKS, INC. AND REVERSAL

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INTEREST OF AMICI CURIAE

Established in 1853, The Clearing House is the oldest banking association and payments company in the United States.[1] It is owned by the world's largest commercial banks, which collectively employ 1.4 million people in the United States and hold more than half of all U.S. deposits. The Clearing House Association L.L.C. is a nonpartisan advocacy organization representing, through regulatory comment letters, *amicus* briefs, and white papers, the interests of its member banks on a variety of critically important banking issues. Its affiliate, The Clearing House Payments Company L.L.C., provides payment, clearing, and settlement services to its member banks and other financial institutions, clearing almost $2 trillion daily and representing nearly half of the automated clearing-house, funds-transfer, and check-image payments made in the United States.

The Financial Services Roundtable represents 100 of the largest integrated financial services companies providing banking, insurance investment products, and services to the American consumer. Member companies participate through the Chief Executive Officer ("CEO") and other senior

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[1] Pursuant to Supreme Court Rule 37.6, the *amici* affirm that no counsel for a party authored this brief in whole or in part, no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief, and no person other than the *amici* or their counsel made such a monetary contribution. All parties have consented to the filing of this brief in letters filed with the Clerk of this Court.

executives nominated by the CEO. Roundtable member companies account directly for $92.7 trillion in managed assets, $1.2 trillion in revenue, and 2.3 million jobs.

The associations joining this brief, and their members, have a strong interest in the question presented in this case. The Federal Circuit's decision is having an adverse impact on financial institutions. For example, one of the decisions that the Federal Circuit overruled involved patents that claimed a method for processing debit transactions without a personal identification number. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007). In that case, the defendant was able to prevail at the summary judgment stage on the ground that it neither performed every step of the method nor controlled or directed the actions of third parties who performed other steps of the method. Consequently, the court held, there was no direct infringer and thus no liability for induced infringement. *Id.* at 1378-81. Under the Federal Circuit's decision in this case, however, lack of a direct infringer is no longer a defense to a claim of induced infringement. As a result, financial institutions face increased exposure to lengthy and costly patent litigation.

Financial institutions are already facing an increased number of claims for patent infringement. These cases seek to hold the financial institution liable even though neither the institution nor its customers practices all the elements of the patent claims. The uncertainty created by the Federal Circuit's decision, coupled with the expense of patent litigation and the increased risk of liability, make it

more difficult for financial institutions to interact with their customers through new technologies, even for basic banking activities such as paying a bill online.

INTRODUCTION AND SUMMARY OF ARGUMENT

The Federal Circuit's decision in this case significantly broadens the doctrine of induced patent infringement. Prior to the Federal Circuit's decision, the law was clear that "[l]iability for either active inducement of infringement or for contributory infringement is dependent upon the existence of direct infringement." *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed. Cir. 1993). By holding that a defendant may be subjected to liability for induced infringement even when there is no underlying act of direct infringement, the Federal Circuit has fundamentally altered well-settled patent law in a way that departs from the relevant statutory language and judicial precedents. As the dissenting judges recognized, the Federal Circuit "assume[d] the mantle of policy maker" that properly belongs to Congress, not the courts. Pet. App. 69a (Linn, J., dissenting).

The decision below will cause harm to financial institutions, as well as other businesses, who are now subject to claims of alleged infringement involving interactions among devices and software applications manufactured by others and deployed by businesses' customers. As petitioner noted in seeking this Court's review, if the Federal

Circuit's decision stands, "no company is safe." Pet. 30.

1. The Federal Circuit's decision contravenes the relevant statutory language. Subsection 271(a) of Title 35 of the U.S. Code defines infringement. *Aro Mfg. Co. v. Convertible Top Replacement Co., Inc.*, 365 U.S. 336, 342 (1961). Subsection 271(b) then provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b). Read together, these provisions make clear that liability for induced infringement attaches only if the act induced amounts to "infringement" as defined in § 271(a).

The Federal Circuit denied that § 271(a) defines infringement and then defined infringement differently for § 271(a) and (b). Although § 271(a) requires that one entity must practice the entire invention, the Federal Circuit held that under § 271(b) infringement is not "limited to 'infringement' by a single entity." Pet. App. 10a. The Federal Circuit's reading thus violates the rule that identical words used in different parts of the same act generally are intended to have the same meaning.

The Federal Circuit's attempt to draw support for its interpretation of § 271(b) from 35 U.S.C. § 271(e), (f), and (g) is ill-founded. The Federal Circuit noted that those sections use "infringement" in ways not "tied to the use of the term 'infringes' in section 271(a)." Pet. App. 20a. But these sections (enacted decades after § 271(a) and § 271(b)) actually reveal that when Congress seeks to expand infringement beyond § 271(a) it does so expressly.

The Federal Circuit also errs in claiming that criminal law and tort law support its imposition of liability for induced infringement in the absence of direct infringement. The Federal Circuit analogized § 271(b) to accessory liability under 18 U.S.C. § 2(b), Pet. App. 16a, but the relevant analogy is 18 U.S.C. § 2(a), which addresses inducement and requires that the act induced be an "offense against the United States." *See United States v. Concepcion*, 983 F.2d 369, 383 (2d Cir. 1992). Tort law is no more helpful to the Federal Circuit. The authorities that it cites do not support the Federal Circuit's departure from the basic principle that inducing an act that is not infringement (and thus not a tort) is not prohibited.

The Federal Circuit's holding is also inconsistent with judicial precedent. This Court has held, in the analogous context of contributory infringement, that "if there is no direct infringement of a patent there can be no contributory infringement." *Aro Mfg. Co.*, 365 U.S. at 341; *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972). The logic of the Court's holdings with respect to contributory infringement applies equally to induced infringement. *See Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2067 (2011).

The Federal Circuit's decision also creates uncertainty about other patent doctrines that depend on linking "infringement" in § 271(b) to the definition in § 271(a). In particular, the Federal Circuit has previously held that because § 271(a) limits infringement to acts within the United States, there

is no liability for inducement under § 271(b) where at least one step of a method claim is performed outside the United States. The continued validity of this doctrine is now unclear.

2. The Federal Circuit's decision appears to have been motivated by policy concerns about the enforceability of so-called "interactive" method patents. Addressing such concerns is the role of Congress, not the federal courts. Moreover, patent holders could largely avoid enforceability issues by drafting patent claims to capture infringement by a single party. In addition, expanding the scope of liability for interactive method patents raises its own set of policy concerns, including reduced innovation and, ultimately, harm to consumers.

3. The Federal Circuit's decision will harm financial institutions and their customers by impeding technological innovation. Consumers increasingly interact with financial institutions using smartphones and other technologies selected by consumers themselves. Financial institutions lack knowledge of their customers' choices, let alone control over them. They thus have very limited ability to avoid claims of induced infringement based on the interaction between bank products and customer devices and software. To reduce the risk posed by claims of induced infringement, financial institutions may cut back on services to customers. They will also be less inclined to pursue new technologies that may increase their exposure to patent infringement claims.

The Federal Circuit's decision has already had an adverse impact on financial institutions. Financial institutions are facing increased claims for induced infringement in the wake of the Federal Circuit's decision. The Federal Circuit's decision subjects financial institutions to higher litigation costs even for ultimately meritless claims. Although the decision below notes that induced infringement requires knowledge that the induced act constitutes infringement, Pet. App. 7a, a patentee can seek to overcome this *mens rea* limitation by filing a complaint or sending a letter to a financial institution alleging induced infringement. This may allow the patentee to push even meritless claims into an expensive discovery process, which in turn, may allow patentees to extract substantial settlements from defendants, to the detriment of consumers.

ARGUMENT

I. The Federal Circuit's Expanded Definition Of Induced Infringement Contravenes Relevant Statutory Language And Judicial Precedent.

A. The Federal Circuit's Reinterpretation Of Induced Infringement Is Inconsistent With The Statutory Text.

1. Section 271(a) of Title 35 of the U.S. Code defines "infringement." *See Aro Mfg. Co.*, 365 U.S. at 342 (Section 271(a) "defines 'infringement'"); *see also* H.R. Rep. No. 82-1923, at 9 (1952) (Section 271(a) "is a declaration of what constitutes infringement"); S. Rep. No. 82-1979, at 8 (1952) (same). Section 271(a) states:

> Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

35 U.S.C. § 271(a). Subection 271(b), in turn, provides: "Whoever actively induces infringement of a patent shall be liable as an infringer." *Id.* § 271(b). The language of subsections 271(a) and (b), read together, makes clear that in order for a person to be liable for induced infringement under § 271(b), the action induced must constitute "infringement" as defined in § 271(a).

Despite this clear statutory language, the Federal Circuit not only denied that § 271(a) defines infringement, Pet. App. 20a, but defined "infringement" differently for purposes of § 271(a) and (b), *id.* at 10a. The Federal Circuit asserted that "[n]othing in the text indicates that the term 'infringement' in section 271(b) is limited to 'infringement' by a single entity. Rather, 'infringement' in this context appears to refer most naturally to the acts necessary to infringe a patent, not to whether those acts are performed by one entity or several." *Id.* But as Judge Linn noted in dissent, "[a] person who does not practice the entire invention is not liable under subsection (a)," and therefore "a person who actively induces such partial practice is not liable under subsection (b)." *Id.* at 73a-74a (Linn, J., dissenting).

The Federal Circuit's new interpretation violates the "normal rule of statutory construction that identical words used in different parts of the same act are intended to have the same meaning." *Taniguchi v. Kan Pac. Saipan, Ltd.*, 132 S. Ct. 1997, 2004-05 (2012) (internal quotation marks omitted). "Congress is presumed to have intended the word 'infringement' in § 271(b) . . . to target the same conduct as 'infringes' in § 271(a); it is the same word, simply used as a verb in paragraph (a) to define the act." Pet. App. 75a (Linn, J., dissenting).[2]

2. The other sections of § 271 that the Federal Circuit cites do not support its new interpretation of § 271(b).

The Federal Circuit seeks support for its interpretation of § 271(b) from 35 U.S.C. § 271(e), (f), and (g). Pet. App. 20a-21a. Subsection 271(e)(2) provides that it is an "act of infringement" to submit an application to the Food and Drug Administration

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[2] Section 281 confirms this interpretation. *See* 35 U.S.C. § 281. Section 281 states, "A patentee shall have remedy by civil action for infringement of his patent." *Id.* Stated differently, for any "infringement," there must be a remedy. The Federal Circuit majority, however, reads "infringement" in § 271(b) in such a way that it includes actions for which there is no remedy under the law. As the brief for the United States in support of certiorari explained, the Federal Circuit "construed the term 'infringement' in Section 271(b) to encompass primary conduct (the collective performance by different actors of all steps of a patented process) that does not violate the law and does not give rise to any civil remedy." Brief for the United States as *Amicus Curiae* at 12. Thus, the Federal Circuit's understanding of "infringement" in § 271(b) does not comport with § 281.

for a drug, or the use of a drug, claimed in a patent. Subsection 271(f) provides that a party shall be "liable as an infringer" if it supplies in the United States a substantial portion of the components of a patented invention in such manner as to induce the combination of those components outside the United States. Subsection 271(g) provides that a person who imports a product made by a process patented in the United States "shall be liable as an infringer." The Federal Circuit noted that the use of "infringement" in those sections "is not in any way tied to the use of the term 'infringes' in section 271(a)." Pet. App. 20a.

Far from supporting the Federal Circuit's interpretation, these subsections demonstrate that when Congress wants to expand the scope of infringement beyond the definition in § 271(a), it does so expressly. For example, § 271(g) states, in relevant part:

> Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable *as an infringer*, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent.

35 U.S.C. § 271(g) (emphasis added). The explicit language of the section—stating that whoever engages in the specified acts will be treated "as an infringer"—makes clear that, but for the addition of the section, the referenced actions would not

constitute infringement, *i.e.*, would not meet the definition in § 271(a).

3. The Federal Circuit erred in concluding that criminal law and tort law support its reading of § 271(b).

The Federal Circuit attempted to analogize induced infringement under § 271(b) to accessory liability under 18 U.S.C. § 2, but that analogy is flawed. The Federal Circuit asserts that, for purposes of criminal law, "the inducer's liability does not turn on whether the intermediary is factually guilty or even capable of committing the charged offense." Pet. App. 15a. But, as the dissent below noted, "[e]ach of the cases upon which the majority relies" for this proposition "was decided under 18 U.S.C. § 2(b), which imposes liability on a defendant who causes an 'act' which '*would be an offense*,' to be done through an intermediary (who may be innocent)." *Id.* at 84a (Linn, J., dissenting).

The relevant analogy for induced infringement under § 271(b) is not 18 U.S.C. § 2(b), but rather § 2(a). Section 2(a) provides: "Whoever commits an offense against the United States or aids, abets, counsels, commands, *induces* or procures its commission, is punishable as a principal." 18 U.S.C. § 2(a) (emphasis added). Subsection 2(a), by its terms, *does* require the commission of an underlying criminal offense as a predicate to liability of another for inducement of that offense: In the phrase "[w]hoever commits an offense against the United States or . . . induces . . . *its* commission . . . ," the word "its" clearly refers to the noun "offense." *See* 18

U.S.C. § 2(a). Thus, for inducement liability under § 2(a) the thing that is induced must be an "offense against the United States," that is, an underlying crime. *See United States v. Concepcion*, 983 F.2d 369, 383 (2d Cir. 1992).

The Federal Circuit also misapplied principles of tort law. The court's opinion cites the *Restatement (First) of Torts*, which states that a defendant may be liable for assisting or encouraging the tortious conduct of another "whether or not the other knows his act to be tortious." § 876 cmt. b (1938). This comment does not suggest that the encouraged party's act need not be tortious at all, only that the encouraged party need not *know* it is tortious. The comment thus provides no support for the majority's position that no single party need commit infringement. The Federal Circuit majority also cited several tort cases in which the defendant breached a *direct* duty owed to the plaintiff. *Compare* Pet. App. 19a, *with id.* at 87a-89a (Linn, J., dissenting). These cases do not support the Federal Circuit's imposition of *indirect* liability, where *no one* is liable for direct infringement. In short, inducing an act that is not infringement (and therefore not a tort) is not prohibited. Tort law provides no basis for reaching a different conclusion.

B. The Federal Circuit's Holding Is Inconsistent With Decisions Of This Court.

In addition to conflicting with the relevant statutory language, the Federal Circuit's opinion is contrary to decisions of this Court dealing with the

closely related offense of contributory infringement. *Compare* 35 U.S.C. § 271(b), *with id.* § 271(c).[3]

More than fifty years ago, in *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, this Court stated that "it is settled that if there is no direct infringement of a patent there can be no contributory infringement." 365 U.S. at 341. The Court described this principle as a "fundamental precept." *Id.* As applied to the facts of *Aro*, which involved a patent infringement suit against the maker of a replacement fabric convertible top, the Court explained,

> that petitioners know that the purchasers intend to use the fabric for replacement purposes on automobile convertible tops which are covered by the claims of respondent's combination

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[3] Section 271(c) provides:

> Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C. § 271(c).

> patent, and such manufacture and sale with that knowledge might well constitute contributory infringement under § 271(c), *if, but only if, such a replacement by the purchaser himself would in itself constitute a direct infringement under § 271(a).*

Id. (emphasis added).

In *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, this Court reiterated that "it is established that there can be no contributory infringement without the fact or intention of a direct infringement," *id.* at 526, and stated: "'In a word, if there is no (direct) infringement of a patent there can be no contributory infringer,'" *id.* (quoting *Mercoid Corp. v. Mid-Continent Co.*, 320 U.S. 661, 677 (Frankfurter, J., dissenting on other grounds)).

These precedents deal specifically with contributory infringement rather than induced infringement, but both offenses are types of indirect or secondary infringement, and the logic that supports the Court's holdings with respect to contributory infringement applies equally to induced infringement. Indeed, as this Court has explained, "induced infringement was not considered a separate theory of indirect liability in the pre-1952 case law. Rather, it was treated as evidence of 'contributory infringement,' that is, the aiding and abetting of direct infringement by another party." *See Global-Tech*, 131 S. Ct. at 2067. "When Congress enacted § 271, it separated what had previously been regarded as contributory infringement into two

categories, one covered by § 271(b) and the other covered by § 271(c)." *Id.*

The Federal Circuit's decision also creates significant uncertainty on other issues of patent law. By decoupling the meaning of "infringement" in § 271(b) from the definition in § 271(a), the Federal Circuit has called into question other ways in which it has held § 271(b) to be linked to § 271(a). For example, prior to *Akamai*, the Federal Circuit had held that where one step of a method claim is performed outside the United States, there can be no inducement under § 271(b) because § 271(a) limits infringement liability to acts within the United States. *See NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005); 35 U.S.C. § 271(a) ("[W]hoever without authority makes, uses offers to sell, or sells any patented invention, *within the United States or imports into the United States* any patented invention during the term of the patent therefor, infringes the patent." (emphasis added)). Now that the Federal Circuit has decoupled the meaning of "infringement" in § 271(b) from § 271(a), however, the continued validity of its precedents limiting inducement liability to actions within the United States is open to question.

II. The Federal Circuit's Decision Is Based On Inappropriate Policy Considerations.

The Federal Circuit appears to have concluded that it was appropriate to depart from settled principles of liability for patent infringement in order to address concerns about the enforceability of so-called "interactive" method patents. For several

reasons, these concerns do not justify the Federal Circuit's decision.

Ten of the 11 judges who participated in the Federal Circuit en banc proceeding agreed that no single party—neither Limelight nor its customers—performed each element of the claimed invention. Moreover, Limelight did not control the actions of its customers, so no party directly infringed the patent. The Federal Circuit majority, however, imposed liability on Limelight for induced infringement on the ground that the combined actions of Limelight and its customers had "precisely the same impact on the patentee as a party who induces the same infringement by a single direct infringer." Pet. App. 9a. In taking this step, the Federal Circuit unjustifiably expanded the scope of liability for patent infringement.

Direct infringement is regarded as a strict-liability offense. *See Global-Tech*, 131 S. Ct. at 2065 n.2 ("Direct infringement has long been understood to require no more than the unauthorized use of a patented invention. . . . [A] direct infringer's knowledge or intent is irrelevant."). Because of the strict liability standard, direct infringement has been limited "to those who practice each and every element of the claimed invention," *BMC Res., Inc.*, 498 F.3d at 1381,[4] and, via established principles of

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[4] This rule has been established for more than a century. *See Wallace v. Holmes*, 29 F. Cas. 74, 80 (C.C.D. Conn. 1871) ("[W]here a patent is for a combination merely, it is not infringed by one who uses one or more of the parts, but not all, to produce the same results. . . . This rule is well settled . . . .").

vicarious liability, to those who "control or direct each step of the patented process" even if some acts are done by third parties, *id.* at 1380; *see also* Restatement (Second) of Torts § 315 (1965) ("There is no duty so to control the conduct of a third person . . . unless . . . a special relation exists between the actor and the third person which imposes a duty upon the actor to control the third person's conduct . . . ."); Restatement (Third) of Agency § 1.01 (2006) ("Agency is the fiduciary relationship that arises when one person (a 'principal') manifests assent to another person (an 'agent') that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act.").

The Federal Circuit went beyond these established limits, and effectively extended liability to defendants accused of inducing infringement by advising, encouraging, or aiding patent infringement even where no party meets the requirements for direct infringement. *See* Pet. App. 17a.

The Federal Circuit's concern about the enforceability of "interactive" method patents does not justify its expansion of liability.

First, altering the scope of enforceability of federal patents is a task for Congress, not the courts. As this Court has explained, "The direction of Art. I [§ 8 of the Constitution] is that Congress shall have the power to promote the progress of science and the useful arts. When, as here, the Constitution is permissive, the sign of how far Congress has chosen to go can come only from Congress." *Deepsouth*

Packing Co., 406 U.S. at 530. In other words, "[b]roadening the doctrine of inducement, such that no predicate act of direct infringement is required, is a sweeping change to the nation's patent policy that is not for [the Federal Circuit] to make," and that the Federal Circuit "dislikes the policy that results from the statute as Congress wrote it is not a valid foundation for the action taken." Pet. App. 80a-81a (Linn, J., dissenting).

In other patent contexts, such as interpretation of 35 U.S.C. § 101, this Court has repeatedly cautioned that courts should not encroach on Congress's role in determining patent policy. *See Diamond v. Chakrabarty*, 447 U.S. 303, 318 (1980) ("Our task . . . is the narrow one of determining what Congress meant by the words it used in the statute; once that is done our powers are exhausted. Congress is free to amend § 101 . . . . But, until Congress takes such action, this Court must construe the language of § 101 as it is."); *Parker v. Flook*, 437 U.S. 584, 596 (1978) ("It is our duty to construe the patent statutes as they now read, in light of our prior precedents, and we must proceed cautiously when we are asked to extend patent rights into areas wholly unforeseen by Congress."). The Federal Circuit disregarded the Court's caution in this case.

Second, federal courts need not step in to address enforcement concerns that the patent holder itself could have prevented through proper claim drafting. The Federal Circuit had previously recognized that "concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can

usually structure a claim to capture infringement by a single party." *BMC Res., Inc.*, 498 F.3d at 1381. Thus, the claim drafter, not the Federal Circuit, is in the best position to avoid the problem of unenforceable patents resulting from so-called "joint infringement."

Third, distorting the liability scheme to expand liability for interactive method patents, particularly those that are implemented by computer, is unjustified because of the potential negative consequences of enforcement of such patents against innocent actors who were previously shielded from suit under the pre-*Akamai* rule. As discussed in more detail below, *see infra* Part III.A, improper enforcement of interactive method patents has a chilling effect that may block innovation and stifle competition.

III. The Federal Circuit's Decision Will Seriously Harm Financial Institutions And Their Customers.

A. The Decision Will Impede Technological Innovation For Consumers.

Financial institutions depend on a strong patent system that promotes innovation and economic growth. Customers demand the ability to interact with their financial institutions using smartphones, computers, and other complex and rapidly evolving technologies. It has been estimated that approximately "53 million consumers will bank by mobile phone" in 2013, and that of the 87% of the U.S. population that has a mobile phone, 21% have

used mobile banking in the last year. Erin F. Fonté, *Overview of Mobile Payments in the United States*, 32 No. 8 Banking & Fin. Servs. Pol'y Rep. 1, 2, 9 (Aug. 2013). Other reports indicate that "[o]nline banking now accounts for 53% of banking transactions, as compared with 14% for in-branch visits." Robin Sidel, *After Years of Growth, Banks Are Pruning Their Branches*, Wall St. J., Apr. 1, 2013, at A1.

Consumers select their own laptops, smartphones and other devices and seek to use them for broad and easy access to banking networks and services. Financial institutions generally lack detailed knowledge of how their customers' hardware devices and software programs work, let alone what patents they implicate. Financial institutions do not know or control whether the operation of their products in conjunction with an individual consumer's device and third-party software may infringe any of the thousands of patents issued by the U.S. Patent and Trademark Office.

The Federal Circuit's decision, if allowed to stand, will discourage innovation in technology-based services to customers and inhibit consumer access to financial services.

First, by opening the door to holding financial institutions (and other businesses) liable for alleged infringement that involves interactions among devices and software applications manufactured by other companies and sold to consumers, the Federal Circuit has significantly increased uncertainty and risk for financial institutions. As noted above, financial institutions lack knowledge of the products

and applications their customers may use to access banking services, much less control over which devices their customers use. Consequently, financial institutions have no way to avoid the risk of liability for induced infringement short of cutting back on services that customers seek, which is an unattractive option in a highly competitive market.

Second, the Federal Circuit's decision could substantially impede technological development. Financial institutions and other businesses will be reluctant to pursue new technologies or provide new services for fear of increasing their exposure to patent litigation. *See* Executive Office of the President, *Patent Assertion and U.S. Innovation* 10 (June 2013) (noting that suits by non-practicing entities can "significantly reduce incremental innovation while litigation is ongoing" because any such innovation "could be viewed by courts as an evidence of 'willful infringement' if the plaintiff's patent is upheld, making the firm liable for treble damages"). This in turn may hinder economic growth due to failure to keep pace with needed services and failure to invest in technology development and deployment. *Cf.* S. Rep. No. 110-259, at 3 (2008) ("[I]n recent years the cost and uncertainty of patent litigation has escalated, leading many to believe that it is an unbearable drag on the innovation that the patent system is supposed to foster.").

B. The Federal Circuit's Decision Has Already Negatively Impacted Financial Institutions.

The Federal Circuit's decision has had a direct and immediate impact on financial institutions.

One of the decisions that the Federal Circuit overruled in this case involved patents that claimed a method for processing debit transactions without a personal identification number and provided "an interface between a standard touch-tone telephone and a debit card network," allowing customers to pay bills using only a telephone. *BMC Res., Inc.*, 498 F.3d at 1375; *see* Pet. App. 3a. The defendant in *BMC*, a company that processed financial transactions for clients, prevailed at the summary judgment stage of the case on the ground that it was not a direct infringer because it did not perform every step of the method and did not control or direct the actions of third parties, who carried out other steps of the method. *BMC Res., Inc.*, 498 F.3d at 1378-81; *id.* at 1380 ("Courts faced with a divided infringement theory have also generally refused to find liability where one party did not control or direct each step of the patented process."). Because lack of a direct infringer is no longer a valid defense to induced infringement under the Federal Circuit's new standard, financial institutions and other defendants now find themselves more exposed to lengthy and costly patent litigation.

Financial institutions currently face dozens of cases alleging infringement of patents directed to systems and methods for data security in consumer smartphone communications. These cases seek to

hold the financial institution liable for infringement even though neither the financial institution nor its customers practice all of the elements of the patent claims.

The problems created by the Federal Circuit's *Akamai* decision are exemplified by *In re Maxim Integrated Products, Inc. Patent Litigation*, a multi-district litigation. No. 2:12-mc-00244-JFC (W.D. Pa.). Maxim has asserted claims against dozens of defendants relating to four patents that it alleges are infringed when the banks' mobile software applications are downloaded, accessed, or used on mobile devices that use the Apple iOS, Google Android, or Blackberry operating systems. Certain Opposing Parties' Brief in Support of Their Motion To Preclude Indirect Infringement, Representativeness, and Doctrine of Equivalents Contentions Under Maxim's Local Patent Rule Disclosures at 1, *id.* (Mar. 28, 2013), ECF No. 526. According to Maxim, the combination of the banking defendants' software and the hardware or software provided by third-party mobile manufacturers and used by the banks' customers infringes Maxim's patents. *See In re Maxim Integrated Prods., Inc.*, No. 12-244, 2013 U.S. Dist. LEXIS 65684, at *22 (W.D. Pa. May 8, 2013). Notably, however, the banking defendants do not design or manufacture any of the accused devices or operating systems at issue in the infringement claims. Certain Opposing Parties' Brief at 2, *In re Maxim Integrated Prods., Inc. Patent Litig.*, No. 2:12-mc-00244-JFC (Mar. 28, 2013), ECF No. 526. Rather, Maxim has made infringement allegations against roughly 1400 mobile devices made by approximately 51 different third-party

manufacturers completely independently of any of the banking defendants. *Id.*

Early in the litigation, certain defendants moved to preclude Maxim's theory of induced infringement on the ground that Maxim failed to provide specific allegations as to how the hardware and software combined allegedly to infringe. The district court denied relief, holding that the motion was "premature," and ordering the parties to "continue to engage in discovery that may provide Maxim with further information, which, if appropriate, it may use to refine its infringement contentions." *In re Maxim Integrated Prods., Inc.*, 2013 U.S. Dist. LEXIS 65684, at *25.

The risk of patent liability arising from such lawsuits generates uncertainty and costs associated with customers utilizing new technologies to interface with their financial institutions for even simple activities, such as paying a bill.

C. The Decision Below Subjects Financial Institutions To Higher Litigation Costs, Even For Ultimately Meritless Claims.

The Federal Circuit majority purported to address concerns that its re-interpretation of § 271(b) would lead to undesirable consequences by emphasizing that induced infringement "requires that the accused inducer act with the knowledge that the induced acts constitute patent infringement." Pet. App. 7a; *see also Global-Tech.*, 131 S. Ct. at 2068 ("[I]nduced infringement under § 271(b) requires

knowledge that the induced acts constitute patent infringement.").

In practice, however, this *mens rea* requirement does not eliminate the problems created by the Federal Circuit's decision. Patentees (including non-practicing patentees) could argue that potential defendants have knowledge due to complaints filed or letters sent by the patentee, alleging that financial institutions or other companies are inducing infringement of an "interactive" patent, even though no one is directly infringing the patent and the financial institutions exercise no control over their customers or other third parties. If a financial institution receives such a complaint or letter, even if the allegation would ultimately be found meritless, the patentee could argue that the requisite knowledge standard is met. If that argument were accepted, the Federal Circuit's purported limitation would be no limitation at all.

Moreover, the *mens rea* requirement may not be susceptible to resolution in advance of discovery. Indeed, the Federal Circuit has previously reached this conclusion in the context of an induced infringement claim. *See, e.g., In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1341 (Fed. Cir. 2012) (holding that plaintiff patentee had alleged sufficient facts regarding defendant's intent in an induced infringement case to satisfy the *Twombly* standard); *see also* Brief for the United States as *Amicus Curiae* at 19 n.7. Thus, despite the *mens rea* requirement, the Federal Circuit's alteration of the scope of conduct that may constitute induced infringement

may subject defendants to costly discovery and other litigation costs, even if the defendants ultimately prevail on the merits.

Pursuant to the Federal Circuit's decision, financial institutions that receive letters from patentees face a dilemma. On the one hand, financial institutions must provide a means for customers to access their financial information through modern technologies, including laptops and smartphones. On the other hand, permitting such access makes the financial institutions subject to at least the threat of liability for induced infringement. The risk of costly litigation and ultimately liability exists even though financial institutions generally do not create either the hardware or the software that customers use to access their accounts. In this situation, where the bank neither knows nor controls how customers interact with the bank's services, financial institutions may not be able to or may find it extremely difficult to evaluate the risk of liability for induced infringement in light of the Federal Circuit's revision of the scope for such liability.

The extent of the uncertainty that the Federal Circuit's decision creates may make it impossible for financial institutions to reallocate the risk of ultimate liability. The number of patent actions filed in 2012 reached an all-time high, *see* PwC, *2013 Patent Litigation Study* 6 (2013), *available at* http://www.pwc.com/en_us/us/forensic-services/publications/assets/2013-patent-litigation-study.pdf, and the cost of litigating patent claims is extremely

high.[5] According to a recent study, the average cost of patent litigation is $916,000 where the defendant's exposure is less than $1 million; $2,769,000 where the defendant's exposure is between $1 million and $25 million; and $6,018,000 where the exposure exceeds $25 million. *See* U.S. Patent & Trademark Office, *Changes to Implement Inter Partes Review Proceedings*, 77 Fed. Reg. 7041, 7055 (Feb. 10, 2012) (citing AIPLA Report of the Economic Survey 2011). Indeed, "in the majority of [non-practicing entity] cases, the legal cost of the defense exceeds [the] settlement or judgment amount." *Patent Assertion and U.S. Innovation*, at 9.

In light of the well-documented cost associated with litigating patent claims, patentees may be able to extract substantial settlements because financial institutions' alternatives—either subjecting themselves to expensive litigation with an uncertain result or forgoing various new technologies to serve customers' needs—are highly unattractive. *See* S. Rep. No. 110-259, at 4 ("[L]itigation concerns can encourage . . . premature settlements simply to avoid the high cost and uncertainty of patent litigation."); John Allison, *et al.*, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 Geo. L.J. 677, 709 (2011) (concluding that "roughly 90%" of patent cases brought by non-practicing entities settle, and the vast majority of such cases "involve[] some sort of

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[5] *See* S. Rep. No. 110-259, at 3-4 (patent litigation "typically take[s] several years to complete" and "can cost several million dollars"); *see also* PwC, *2013 Patent Litigation Study*, at 21 (the median amount of time between filing of a patent complaint and trial is 2.5 years).

payment to the patent plaintiffs" that "might represent not the acquisition of real legal rights but a nuisance settlement over a likely invalid patent"); *see also Patent Assertion and U.S. Innovation* at 6 (explaining that in the face of suits by non-practicing entities, "many patent owners and users prefer to settle out of court for amounts that have not so much to do with the economic value of their patents or the probability they have infringed," but rather with "the parties' relative opportunity costs of going to trial and attitudes toward risk").

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted,

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AMICUS CURIAE BRIEF

RECORD AND BRIEFS

No. 12-786

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In The
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., *et al.*,
Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF AMICUS CURIAE CONEJO VALLEY BAR ASSOCIATION IN SUPPORT OF NEITHER PARTY

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Brief Of *Amicus Curiae* Conejo Valley Bar Association In Support Of Neither Party[1]

INTEREST OF THE *AMICUS CURIAE*

Based in the heart of Southern California's 101 Technology Corridor, the Conejo Valley Bar Association draws its membership from local law firms and in-house attorneys serving small, mid-market and large companies. Our members' clients are predominantly high tech, high growth companies in fields such as software, biotech, e-commerce, telecommunications, semiconductors and medical devices. Our members' clients are innovators who vend in some of the world's most competitive markets.

When public policies of the patent system are at issue, the Conejo Valley Bar Association regularly participates as *amicus curiae* in cases before the Court and *en banc* panels of the Court of Appeals for the Federal Circuit. We are unconcerned with the outcome of the cases, though decidedly concerned about the issues. We wish to see the American public

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[1] Pursuant to Supreme Court Rule 37.6, Amicus states that no counsel for a party authorized this brief in whole or in part and that no person or entity other than Amicus, its members, and its counsel contributed monetarily to the preparation or submission of this brief. On December 11, 2013, counsel for the respondents and counsel for the petitioner consented to the filing of amicus curiae briefs, in support of either party or of neither party. With the consent of the parties, the Conejo Valley Bar Association submits this brief *amicus curiae* in support of neither party.

benefit from innovation, from technical disclosure, and from competition in product and service markets. In short, we support the purpose of the patent system. The Conejo Valley Bar Association believes that the patent laws should be interpreted in ways that best serve these important public policies.

INTRODUCTION AND SUMMARY OF ARGUMENT

The Court has invited and our *amicus* brief addresses one question: whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no one has committed direct infringement under § 271(a).

We agree with the Federal Circuit's requirement in *Muniauction*[2] that liability for "distributed" infringement arises when there is a "mastermind" who can fairly be held liable for giving "'control or direction' over the entire process such that every step is attributable to the controlling party." We also agree with the Federal Circuit's later expression in *BMC Resources* that this equates

---

[2] *Muniauction v. Thomson*, 532 F.3d 1381, 1329 (Fed. Cir. 2008) (citing *BMC Resources v. Paymentech, L.P.*, 498 F.3d 1373, 1380-81 (Fed. Cir. 2007)).

to a question of vicarious liability.[3] We see no need to change these long-recognized principles of direct infringement with the unprecedented and unsupported standard created in the Federal Circuit opinion[4].

We also agree with Judges Rader, Gajarsa and Prost who opined in *BMC Resources* that good claim drafting can avoid most distributed infringement problems. The art of claim drafting has advanced tremendously in the last twenty years. The doctrine of equivalents was used in the early days of the Federal Circuit to enable judges to rescue inventors from the poor claim drafting of their patent attorneys. Reflecting the advancement in the field of claim drafting, we have seen the near-elimination of the doctrine of equivalents. Likewise there is no need to rescue inventors from claims that cannot be infringed.

We also believe that traditional rules of agency resolve most issues of distributed infringement, just as they resolve most issues of other distributed tort liability. We write to encourage the Court to guide the district courts and the Federal Circuit better on the application of

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[3] *Akamai Techs. v. Limelight Networks*, 692 F.3d 1301, 1319 (Fed. Cir. 2012) (citing *BMC Resources*, 498 F.3d at 1379 (citing *Engle v. Dinehart*, 213 F.3d 639 (5th. Cir. 2000) (unpublished decision)); Restatement (Second) of Agency § 220 cmt. d)).

[4] *Akamai*, 692 F.3d at 1318.

traditional rules of agency to distributed infringement.

Amicus curiae writes *in pro bono publico*, rather than in support of either party. We are uninterested in the outcome of the case,[5] though decidedly concerned about the issue. We wish to see the American public benefit from innovation, from technical disclosure, and from competition in product and service markets. In short, we support the purpose of the patent system. The Conejo Valley Bar Association believes that the patent laws and Federal Rules of Civil Procedure should be interpreted in ways that best serve these important public policies.

ARGUMENT

The Federal Circuit should be reversed for four reasons. First, patent law is a tort and should rely upon traditional tort and agency standards. Second, induced infringement cannot exist without direct infringement. Second, when induced infringement is not fount, the injured party is the patentee – the one party best equipped to address the problem of divided or joint infringement through careful claims drafting. Third, punishing potential induced infringers for a patentee's failure to carefully craft claims is inequitable. This is especially so when the patentee is a non-practicing entity (aka "patent roll") that has no discovery

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[5] The undersigned represent MIT in unrelated patent matters.

burden in litigation it initiates. Finally, Congress is the entity best equipped to address this issue.

A. Patent Law Should Conform to Traditional Tort and Agency Principles

Cases of distributed infringement usually turn on the extent of "control or direction" required for a party to be held liable for direct infringement when more than one party performs all of the steps of a claimed method. This issue is not unique to patent law – the legal principle of vicarious liability applies generally to all tort cases. We encourage this Court to continue to hold that traditional agency standards apply in patent cases, as the Federal Circuit held in *BMC Resources* and *Muniauction*.

In the last several years, the Supreme Court repeatedly reminded us that patent law is not some strange alien creature removed from the constraints of ordinary law. Patent law follows the same rules which apply to other torts. In *eBay v MercExchange*, this Court addressed the proper standard for granting injunctions in patent cases.[6] In *MedImmune v. Genentech*, this Court addressed the proper standard for determining declaratory judgment jurisdiction.[7] In both *eBay* and *MedImmune*, this Court held that the standard in patent cases is the same as in any other case. When the Federal Circuit departed from the established

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[6] *eBay, Inc. v MercExchange, LLC*, 547 U.S. 388 (2006).

[7] *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118 (2007).

norms, the Supreme Court reminded us that patent law is a tort and must follow the norms of tort law.

In keeping with the cross-doctrinal view of patent law, in *Global-Tech Appliances, Inc. et. al. v. SEB S.A.*, this Court relied upon the legal principle of "willful blindness" codified in criminal law statutes to aid its interpretation of "knowledge" in the context of induced infringement.[8] In *Global-Tech*, this Court stated that:

> Given the long history of willful blindness and its wide acceptance in the Federal Judiciary, we can see no reason why the doctrine should not apply in civil lawsuits for induced infringement under 35 U.S.C. 271(b).[9]

Again, this Court instructed us to follow traditional, common legal principles when evaluating patent cases.

In this case as in many others, the issue is whether the accused infringer *directed or controlled* the actions of the other actors and, therefore, is vicariously liable for their actions, or whether it entered into *arms-length contracts* with the other actors and, therefore, is not liable. We write as *amici* to urge this Court to continue following the

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[8] *Global-Tech Appliances, Inc. et. al. v. SEB S.A.*, No. 10-6, 179 L. Ed. 2d 1167, 2011 U.S. LEXIS 4022, 98 U.S.P.Q.2D (BNA) 1665 (2011).

[9] *Global-Tech Appliances*, 179 L. Ed. 2d at 1178.

precedent set in *eBay* and *MedImmune* to clarify that traditional agency standards apply in patent cases and that there is no special patent rule of agency.

In general, the law of agency is quite simple.

> Agency is the fiduciary relationship that arises when one person (a "principal") manifests assent to another person (an "agent") that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act.[10]

In *BMC Resources*, the Federal Circuit explained that vicarious liability could be imposed on a party in control ("the mastermind"), for example, if it contracted out steps of a patented process to another entity to attempt to avoid infringement.[11] The issue now, however, is to what extent does the party need to "control or direct" the actions of the other party.

In *Muniauction*, the Federal Circuit held that direction or control required something more than just a contractual agreement to pay for defendant's

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10 Restatement (Third) of Agency, Section 1.01 (2006).

11 *BMC Resources*, 498 F.3d at 1381.

services and instructions on how to utilize those services.[12]

An agent must practice each element of a claim for a patent to be infringed. However, it is asserted that the direct infringer must direct or control the agent in performing each element on an element by element basis. Traditional agency law does not support this view.

In traditional agency law, the principal has liability for the acts of the agent so long as the principal had sufficient control or direction over the agent who practices claimed elements. This is reflected in the Restatement (Third) of Agency, relied on by this Court in *BMC Resources v Paymentech*:

> § 7.03 Principal's Liability--In General
>
> (1) A principal is subject to direct liability to a third party harmed by an agent's conduct when
>
> (a) as stated in § 7.04, the agent acts with actual authority or the principal ratifies the agent's conduct and
>
> (i) the agent's conduct is tortious, or

---

[12] *Akamai Tech. v. Limelight Networks.*, 614 F. Supp. 2d 90, 121 (D. Mass. 2009).

> (ii) the agent's conduct, if that of the principal, would subject the principal to tort liability; or
>
> (b) as stated in § 7.05, the principal is negligent in selecting, supervising, or otherwise controlling the agent; or
>
> (c) as stated in § 7.06, the principal delegates performance of a duty to use care to protect other persons or their property to an agent who fails to perform the duty.
>
> (2) A principal is subject to vicarious liability to a third party harmed by an agent's conduct when
>
> (a) as stated in § 7.07, the agent is an employee who commits a tort while acting within the scope of employment; or
>
> (b) as stated in § 7.08, the agent commits a tort when acting with apparent authority in dealing with a third party on or purportedly on behalf of the principal.

According to the Restatement, liability is found in the principal so long as the agent acts with actual or apparent authority, and either the agent's conduct is tortious or the agent's conduct, if that of the principal, would subject the principal to tort liability. This traditional statement of agent liability

applies to patent infringement just as it does with other torts.

To understand how traditional rules of agency should apply to this case, we suggest that this Court consider the outcome if this were a traditional tort case and not a patent case.

The analysis applied should conform to traditional agency principles. The test should not be whether the direct infringer directed or controlled the actions of the agent on an element by element basis. Instead, the test should focus on holding a party liable for the acts of the agent so long as the party *had sufficient control or direction* over the agent who practiced the claimed elements.

This Court has enforced the traditional common law applicable to all torts that principals are vicariously liable for acts of their agents acting in the scope of their authority. In a case regarding the Fair Housing Act, this Court rejected a nontraditional vicarious liability principle used by the Ninth Circuit[13]. Likewise, the District of Columbia Circuit recently used the traditional standard for agency in a case concerning the

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[13] *Meyer v. Holley*, 537 U.S. 280 (2003) ("It is well established that traditional vicarious liability rules ordinarily make principals or employers vicariously liable for acts of their agents or employees in the scope of their authority or employment.").

Shipping Act of 1984[14]. In a similar fashion, the traditional law of agency should apply to patent law cases.

B. Induced Infringement Depends on an Act of Direct Infringement

The principle that there can be no indirect infringement without direct infringement is well settled[15]. There is no such thing as "partial" infringement for the very reason that all limitations of a claim must be met before direct infringement is possible. In any other tort, actions performed by one party cannot be attributed to another so as to make out the elements of the tort, absent some showing of known collusion, conspiracy or group effort to effect the tort.

The majority *Akamai* Federal Circuit opinion stated that:

> If a party has knowingly induced others to commit the acts necessary to infringe the plaintiff's patent and those others commit those acts, there is no reason to immunize the inducer from liability for indirect infringement simply because

---

14 *Landstar Express Am., Inc. v Federal Maritime Comm'n*, 569 F.3d 493 (D.C. Cir. 2009) ("[C]ommon law agency principles provide members of the public with adequate safeguards in their dealings with agents: If an agent breaches a contract or commits a tort, the disclosed NVOCC principal in whose name the agent acts is subject to liability.").

15 *Akamai*, 692 F.3d at 1308 (citing numerous cases).

> the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement.[16]

A more appropriate summary would simply state there is no direct infringer or infringement. Without a direct infringer meeting all of the limitations of a patent claim, and absent a showing of joint liability or agency in the traditional tort sense, the inquiry should end. Probing motives, arrangements, and stretching to piece together a direct infringement is unnecessary, contrary to well-settled law, and likely to have unintended consequences, not the least of which will be to encourage still more questionable patent cases to be brought and litigated through trial.

C. The Party Most Capable of Dealing with Joint Infringement Issues is the Patentee

From a more practical perspective, the entity most capable of avoiding the indirect infringement issues presented by this case is the patentee. Careful and thoughtful patent claim drafting can easily avoid virtually all of these issues. Here, Akamai drafted claims that require server-side actions and changes, presumably by customers, to customers' web pages. As any experienced patent prosecutor is aware, there are numerous ways to draft claims that do not require multiple actors. Since well before this case began winding its way

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16 *Id.*

through the courts, patent prosecutors have been aware of the potential for divided infringement issues and savvy prosecutors have long been addressing them.

A potential "partial" infringer should not be punished for a patentee's poor patent drafting. To do otherwise, circumvents the Patent Act by imposing liability for only performing or embodying some of the claimed limitations. Reversing the Federal Circuit has the added benefit of promoting patent quality by requiring patentees to clearly claim actions performed by a single actor or risk having worthless claims that cannot be directly infringed.

D. Congress is a Better Place to Correct Any Issue

Finally, if induced infringement and divided infringement are a problem meriting a solution, Congress may act to lower or otherwise alter the requirements for a finding of direct infringement. This would be a poor decision for a host of reasons, but that decision is better left to Congressional discretion than any new standard imposed by the Federal Circuit or this court.

CONCLUSION

We concur with Judge Linn's dissent below in encouraging this Court to act in accord with Supreme Court, Federal Circuit and DC Circuit precedent to apply traditional vicarious liability rules to this case. Specifically, we suggest that this Court should find that direct infringement by a

single entity, or a group acting together under traditional conceptions of agency in tort, under 35 U.S.C. § 271(a) is a prerequisite to a finding of induced infringement under 35 U.S.C. § 271(b).

Respectfully submitted,

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On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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QUESTION PRESENTED

Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no person has committed direct infringement under § 271(a).

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Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., *ET AL.*,
Respondents.

On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

BRIEF OF CTIA—THE WIRELESS ASSOCIATION AS *AMICUS CURIAE* IN SUPPORT OF PETITIONER

INTEREST OF AMICUS CURIAE[1]

CTIA—The Wireless Association is an international nonprofit organization that represents the

[1] This brief is filed with the written consent of all parties through either universal or individual letters of consent on file with the Clerk. No counsel for either party authored this brief in whole or in part, nor did any party or other person make a monetary contribution to the brief's preparation or submission.

wireless communications industry.[2] CTIA's members include hundreds of network providers, suppliers, manufacturers, providers of data services and products, and countless other contributors to the wireless ecosystem that facilitate access to information across the Country. CTIA regularly appears before the Court in cases presenting issues of importance to the wireless industry. *See, e.g.*, *Sprint Commc'ns, Inc. v. Jacobs*, 134 S. Ct. 584 (2013); *City of Arlington, Tex. v. FCC*, 133 S. Ct. 1863 (2013); *AT&T Mobility LLC v. Concepcion*, 131 S. Ct. 1740 (2011); *Stolt-Nielsen S.A. v. Animalfeeds Int'l Corp.*, 559 U.S. 662 (2010).

CTIA submits this brief to alert the Court to the inhibiting effects the Federal Circuit's "inducement-only" liability rule will have on American innovation and growth, including in the fast-growing wireless telecommunications sector about which CTIA can speak with particular expertise. The Federal Circuit's elimination of a bright-line defense to induced infringement claims will subject CTIA's members to unwarranted litigation and threats of liability for activities that have long been considered innocent and non-infringing under the Patent Act, 35 U.S.C. §§ 1 *et seq.* In CTIA's view, the Federal Circuit's decision provides all the wrong incentives going forward: encouraging baseless litigation and worst practices in patent-claim drafting.

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[2] CTIA was founded in 1984 as the Cellular Telecommunications Industry Association. In 2000, CTIA merged with the Wireless Data Forum and became the Cellular Telecommunications & Internet Association. In 2004, the name was changed to CTIA—The Wireless Association®.

STATEMENT

A. The Rapid Growth Of Wireless Innovation.

The United States has one of the most advanced and well-developed wireless telecommunications networks in the world. By October 2012, approximately 312 million Americans, or 99.9% of the total U.S. population, had access to high-speed mobile wireless service provided by at least one national wireless carrier, and 97% of the population could choose from at least three providers for their wireless needs. FCC, SIXTEENTH ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO MOBILE WIRELESS, INCLUDING COMMERCIAL MOBILE SERVICES ¶ 45 (2013) ("Sixteenth FCC Report").

The wireless services that underpin this Country's innovation economy have exploded in recent years. Wireless subscriber connections now out-number the U.S. population.[3] "[M]obile data

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[3] *See* CTIA, *For the First Time in CTIA Survey History, There Were More Wireless Subscriber Connections than the U.S. Population* (Nov. 25, 2013), http://www.ctia.org/resource-library/facts-and-infographics/archive/more-wireless-subscriber-connections-than-us-population. In 2012, wireless subscribers used more than 2.3 trillion minutes of talk time, transmitted more than 2.1 trillion text messages, and transferred more than 1.4 trillion megabytes of data. CTIA, *Wireless Quick Facts* (Nov. 2013) ("CTIA Quick Facts"), *available at* www.ctia.org/your-wireless-life/how-wireless-works/wireless-quick-facts. For comparison, the amount of data transferred over wireless networks in 2012 is more than 6,600 times the estimated data equivalent of the Library of Congress's print collection in 2000. *See* Mike

traffic *** has more than doubled each year for the past four years," and roughly two-thirds of all Internet traffic is carried wirelessly. Sixteenth FCC Report at 12, ¶ 370.[4] By the first half of 2012, 34% of all households in the United States had converted to wireless only, and 60% of all adults in the country aged 25-29 relied exclusively on wireless technology for voice and data communications. *Id.* ¶ 367.

This staggering and unprecedented level of connectivity is made possible largely by the increasing prevalence of portable wireless devices that allow access to the Internet at the touch of a button. 120 million Americans (or roughly 56% of wireless consumers) now use one (or more) of the 297 different smartphone devices available in the U.S. market. Sixteenth FCC Report at 22. These devices are produced by scores of manufacturers in a competitive market and are available through a variety of wireless service providers across the Country. COMSCORE, 2013 MOBILE FUTURE IN FOCUS 7 (2013) ("Focus Report").[5] The use of tablet computers is also on the rise, with over 50 million

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Ashenfelder, *Transferring "Libraries of Congress" of Data*, LIBRARY OF CONGRESS, July 11, 2011, *available at* blogs.loc.gov/digitalpreservation/2011/07/transferring-libraries-of-congress-of-data.

[4] *See* CTIA, *Wi-Fi and Broadband Network Connected Devices Will Account for 68 Percent of All Internet Traffic – INFOGRAFIC* (Nov. 25, 2013), *available at* www.ctia.org/resource-library/facts-and-infografics/archive/wi-fi-broadband-devices-internet-traffic-infografic.

[5] Available at www.comscore.com/Insights/Presentations_and_Whitepapers/2013/2013_Mobile_Future_in_Focus.

such devices now in use only three years after they first appeared on the U.S. market. *Id.* at 7.

Smartphones and tablets are far more than mere telephones or even portable computers. Because of their seamless connection to the Nation's vast high-speed wireless network, they create a portal through which consumers can freely and instantaneously communicate with others (through traditional voice service, video chat, and various forms of electronic messaging), access the Internet, play games, obtain information on demand, and enjoy individually tailored digital content anywhere in the Country. *See* FCC, FIFTEENTH ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO MOBILE WIRELESS, INCLUDING COMMERCIAL MOBILE SERVICES ¶ 5 (2011) ("Fifteenth FCC Report").

Much of this content is delivered to devices through mobile applications, or "apps," which draw on a device's existing capabilities to provide content or perform various functions that might not be available on the device itself. By 2012, consumers could download over 1 million different apps to their wireless devices. These apps provide functions ranging from weather and traffic reports, web searching, and news and information gathering to e-mail and messaging, social networking, global positioning, photo sharing, and music and video streaming. *See* Sixteenth FCC Report at 229 Table

54. Mobile application downloads are expected to grow to more than 268 billion by 2017.[6]

Unsurprisingly, this rapid proliferation of wireless networking services, mobile wireless devices, and mobile applications has made the wireless telecommunications industry one of the fastest growing, most innovative, and highly productive segments of the United States' economy. "Wireless economic contributions have grown faster (16%) than the rest of the economy (3%)." CTIA, THE WIRELESS INDUSTRY FACTS: AN INDEPENDENT REVIEW 1 (2010).[7] Annual wireless revenue of $185 billion in 2012, is more than three-fold revenue in 2007. CTIA Quick Facts; *see also* Fifteenth FCC Report at 13-14; Sixteenth FCC Report at 15.

The wireless industry employs more than 3.8 million Americans (2.6% of the U.S. workforce) and is worth more than the "publishing, agriculture, hotels and lodging, air transportation, motion picture and recording and motor vehicle manufacturing industr[ies]." CTIA Quick Facts. The mobile application segment of the industry alone is valued at $10 billion and employs 519,000 Americans in development and related roles. *Id.* And with the recent spectrum expansions approved by the FCC's National Broadband Plan, *see* Fifteenth FCC Report

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[6] CTIA, *Mobile App Downloads Will Grow To More Than 268 Billion* (Jan. 22, 2014), http://www.ctia.org/resource-library/facts-and-infographics/archive/mobile-app-downloads-grow-2017

[7] Available at http://files.ctia.org/pdf/082010_Independent_Assessment_of_Wireless_Industry.pdf

at 31, it is estimated that by 2020, the wireless telecommunications industry will increase the U.S. GDP by $87 billion, generate an additional $23.4 billion in government revenue and $13.1 billion in wireless applications and content sales, and produce at least 350,000 new American jobs. CTIA Quick Facts.

B. Continued Growth Of The Wireless Ecosystem Depends On Clear And Fair Patent Rules.

Strong and transparent intellectual property rights, enforced by clear and fair rules of the game, allow the technology sharing that creates this "mobile wireless ecosystem," where wireless network service providers connect consumers with developers, manufacturers, and programmers by offering "mobile voice, messaging, and/or data services using their own network facilities." Fifteenth FCC Report ¶ 26.

Wireless service providers offer the platforms and workable standards that allow the myriad components of the wireless ecosystem—such as network infrastructure, mobile devices, and user applications—to interconnect and deliver information to the end user. By doing so, wireless providers essentially create hubs for innovation. They develop and implement published standards and protocols to encourage interoperability between each segment of the ecosystem, and provide capital and guidance to foster seamless nationwide coverage. Such contributions encourage independent network designers, device manufacturers, and software application and content developers to interact collaboratively, and

(subject to industry standards) design, test, and implement new technologies. These cooperative, yet inherently competitive, interactions ultimately redound to consumers' benefit by yielding enhanced services at lower costs.

Wireless providers rely upon the backdrop of clear patent rules in their role as innovation facilitators. It is precisely this role as facilitators of technology sharing that places wireless service providers smack in the middle of a web of "densely overlapping patent rights held by multiple patent owners," *i.e.*, a "'patent thicket.'" FTC, THE EVOLVING IP MARKETPLACE, 56 (2011) ("FTC Report").[8] The typical smartphone, for example, "incorporate[s] technologies from digital cameras, global positioning systems, and wireless communication," and thus may use between "50,000 and 250,000 patented technologies" in performing what consumers now view as routine functions. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-465, INTELLECTUAL PROPERTY, ASSESSING FACTORS THAT AFFECT PATENT INFRINGEMENT LITIGATION COULD HELP IMPROVE PATENT QUALITY 31 (2013) ("GAO Report").[9]

Companies must "hack [their] way through" the patent thicket in order to commercialize new technologies. CARL SHAPIRO, INNOVATION POLICY AND THE ECONOMY 120 (Adam B. Jaffe, *et al.*, eds., 2001); *see* Stacie L. Greskowiak, *Joint Patent Infringement*

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[8] Available at http://www.ftc.gov/reports/evolving-ip-marketplace-aligning-patent-notice-remedies-competition.

[9] Available at http://www.gao.gov/products/gao-13-465.

After BMC*: The Demise of Process Patents*, 41 LOY. U. CHI. L.J. 351, 402 (2010) (noting that the use "of multiple entities to carry out a process" is common in the "technology, communication, and medical industries"). But given the speed of technological innovation and the number of potential technologies involved, there is "often no economically feasible way, prior to making sunk investments, to identify and obtain rights to all the relevant patented technologies" that might be used over wireless networks. *See* Deborah Platt Majoras, FTC Chairwoman, A Government Perspective on IP And Antitrust Law 7 (June 21, 2006);[10] *see also* GAO Report at 30 ("[T]he sheer volume of patents makes searching for relevant patents before developing new products particularly difficult, especially for products that combine many patented technologies.").

Yet the stakes for failing to do the impossible—*i.e.*, to navigate this thicket successfully—have never been higher. The number of patent infringement suits, including those filed by "patent assertion entities," has increased substantially in recent years. FTC Report at 58-60; *see also* EXECUTIVE OFFICE OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION 5 (2013) ("White House Report");[11] GAO Report at 17 n.36. And more than 5,000 patent infringement actions were filed in 2013 alone—"the highest number ever recorded." PRICEWATERHOUSE-

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[10] Available at www.ftc.gov/speeches/majoras/060621aai-ip.pdf

[11] Available at http://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf.

COOPERS, 2013 PATENT LITIGATION STUDY 6 (2013) ("PWC Report").[12]

Patent suits "typically take several years to complete, if appealed, may be remanded more than once, and can cost several million dollars." S. Rep. No. 110-259, at 3-4 (2008). *See also* PWC Report at 20-21 (majority of patent cases reach trial within 3 years, with a median time to trial of approximately 2.5 years). Defense costs, even in unsuccessful suits, reach millions for a single patent infringement suit. GAO Report at 26; PWC Report at 5, 12; AIPLA, 2013 REPORT OF THE ECONOMIC SURVEY (2013) (noting that the average cost of defending a patent infringement suit through the end of discovery is between $530,000 and $3.6 million, and typically exceeds $5 million when the suit proceeds through trial).

Such exorbitant defense costs "can take a particular toll on small and upstart businesses," where "patent holders may be able to *** threaten litigation and to bully competitors, especially those that cannot bear the costs of a drawn out, fact-intensive patent litigation." *Bilski v. Kappos*, 130 S. Ct. 3218, 3257 (2010) (Stevens, J., concurring). Forty percent of targeted "technology company startups," for example, "reported a 'significant' operational impact (*e.g.*, change in business, exit from the market, delay in milestone, change in product, etc.) due to the suit or threat thereof." White House Report at 10. When damages are awarded, total

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[12] Available at www.pwc.com/us/en/forensic-services/publications/2013-patent-litigation-study.jhtml.

costs skyrocket. And in telecommunications patent cases, where plaintiffs often pursue the carrier "hubs" and base damages awards on total carrier revenue, damages awards tend to be "significantly higher" than those in other industries. PWC Report at 5, 15 (noting that the median damage award in telecommunications patent infringement cases is in excess of $30 million—over six times higher than the cross-industry median of $4.9 million).

Worse still, when patent assertion entities are involved, litigation costs are often asymmetrical. Such entities "typically have few documents and witnesses, so they may propound extremely burdensome discovery *** without fearing that they will be on the receiving end of corresponding burdens." H. Rep. No. 113-279, at 31 (2013). These lopsided litigation burdens often lead to premature settlements "driven by the economics of litigation rather than the merits of the case," *id.* at 19—"even when the defendant has good reason to believe that it would have prevailed at trial," *id* at 21. *See* John Allison, *et al.*, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 707-709 (2011) (patent assertion entities have a 90% success rate in obtaining what are believed to be nuisance settlement payments); *see also* White House Report at 6 (similar). In short, companies face a "Hobson's choice: defend the litigation, which will cost literally millions of dollars, or settle for a smaller, but not insignificant, amount of money. If you do settle, then the company develops a reputation for being an easy target, which just invites more extortion attempts[.]" H. Rep. No. 113-279, at 33.

Even when an infringement suit is unsuccessful and a nuisance settlement is avoided, the prospect of additional litigation can have a chilling effect on innovation that can "persist for years." White House Report at 10. The resulting reticence to enter or reenter the innovation marketplace dampens not only innovation but also economic growth more broadly, *e.g.*, through "reduced income for workers whose pay is lower because they are unable to work with more productive new processes" and "lost value to consumers who are not able to buy innovative products." *Id.*

Because "the most litigated patents are far more likely to be software and telecommunications patents,"[13] the continued success of these high-tech industries that underpin the American innovation economy depends on a "fair, efficient, and reliable patent system." H. Rep. No. 113-279, at 17. That entails clear and calibrated rules that strike a balance between protecting legitimate patent rights and "stimulat[ing] the investment in innovation that is necessary in today's technologically complex world to create the new products and processes that will lead to better lives for Americans." *Id.* The Federal Circuit's new "inducement-only" rule skews that balance, effectively placing a thumb on the scale in favor of "technically valid but valueless [patent]

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[13] John R. Allison, *et al.*, *Extreme Value or Trolls on Top? The Characteristics of the Most Litigated Patents*, 158 U. PA. L. REV. 1, 18 (2009) ("34% of the most litigated patents are in the [tele]communications industry.").

claims" (Pet. App. 74a (Linn, J., dissenting)) at the expense of American innovation and growth.

SUMMARY OF ARGUMENT

Wireless technology has become an engine of American innovation and economic growth. But the novel "inducement only" liability rule threatens the wireless sector's continued vitality. The Federal Circuit's departure from the text of the Patent Act and settled precedent makes interdependent network-based technologies, such as the wireless ecosystem, particularly vulnerable to innovation-killing infringement claims.

The simplest wireless transaction involves hundreds if not thousands of patented technologies and connects a vast array of different actors—from content and application providers to end users—with wireless network providers at the hub. The Federal Circuit's rule enables holders of imprecise method claims to pick and choose their defendant—in this context, almost certainly a wireless provider—by cobbling together the conduct of multiple actors into an indirect infringement claim, despite the absence of any direct infringement. Such suits will only add to the heavy toll of spurious patent litigation on our technology economy and the wireless industry in particular. Because knowledge of others' conduct is easy to allege but hard to disprove, wireless network providers and other defendants will become embroiled in litigation of divided infringement claims that, under the pre-*Akamai* regime, would have been readily dismissed without costly discovery or threat of liability.

The "inducement only" rule also encourages the drafting of non-unitary claims to the detriment of a patent claim's essential notice function. The practice of unitary claims drafting—in which a patent claim is limited to conduct performed by a single entity—allows a single actor to determine if it will be liable for infringement based on its own conduct, rather than being forced to speculate about the conduct of independent third parties over which it has no control. That certainty provides the "fair warning" and incentives for innovation that well-drafted patent claims are intended to produce. But if infringement liability is no longer cabined to the conduct of single actor, patentees will have every incentive to draft their claims to capture the widest possible universe of potential actors, rather than focus their efforts on best capturing the innovative elements of their invention. Wireless providers, even though they lack knowledge or control over independent actors, are particularly exposed to indirect infringement claims based on weak or imprecise method patents.

ARGUMENT

Under the Federal Circuit's new "inducement only" rule, patent holders can recover for "divided" infringement of method patents under 35 U.S.C. § 271(b), even though no person could be held liable for directly "infring[ing] the patent" under 35 U.S.C. § 271(a). Disregarding this Court's longstanding rule that liability for indirect infringement is dependent on an act that "would in itself constitute a direct infringement under [Section] 271(a)," *see Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961), a sharply divided en banc court held that

as long as some collection of independent actors collectively undertakes all the steps of the patented method, the alleged inducer "'shall be liable as an infringer'" if he knowingly "'cause[d], urge[d], encourage[d], or aid[ed]'" those actions. Pet. App. 7a, 8a (quoting *Arris Group, Inc. v. British Telecommc'ns, PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011).

Petitioner and others, including the Solicitor General, explain well why the Federal Circuit's "sweeping change to the nation's patent policy" (Pet. App. 80a (Linn, J., dissenting)) is inconsistent with the text, structure, and history of the Patent Act, and cannot be squared with this Court's precedent. CTIA agrees with petitioner's analysis, and does not repeat it below. Rather, CTIA writes separately to convey to the Court the substantial consequences of this ill-considered and ill-supported rule—namely, increased nuisance litigation that hinders innovation, and the creation of incentives for drafting imprecise non-unitary claims that undermine a patent claim's essential notice function—from the perspective of the wireless telecommunications industry.

I. THE FEDERAL CIRCUIT'S RULING WILL EXPOSE INNOVATION INDUSTRIES TO ADDITIONAL AND UNWARRANTED LIABILITY RISK.

A. The Inducement-Only Rule Exacerbates The Problem Of Abusive Patent Suits And Leaves Wireless Providers Particularly Vulnerable.

"The harm inflicted on American innovation and manufacturing by various abusive patent-enforcement practices has been widely known and acknowledged for most of the last decade." H. Rep. No. 113-279, at 17. As explained above (pp. 9-12, *supra*), patent infringement suits are now filed more frequently, take longer to resolve, and are more expensive than ever before. And given the resources of wireless carriers together with the technology-rich environment, telecommunications patents are among the most litigated in this rising tide of lawsuits.[14] The "flaws in the system *** have become [so] unbearable" and impose such a "drag on the innovation that the patent system is supposed to foster," S. Rep. No. 110-259, at 2, 3, that Congress recently has acted to reform patent law in an attempt to curb

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[14] *See* Roger Parloff, *RPX: Taking On The Patent Trolls*, FORTUNE, February 27, 2014, http://money.cnn.com/2014/02/27/news/companies/rpx-patent-trolls.pr.fortune/index.html (telecommunication companies among the top targets of patent infringement actions brought by non-practicing entities in 2013).

meritless patent litigation. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

The Federal Circuit's decision only exacerbates the problem. Prior to this case, it was well settled that a defendant could not be held liable in an infringement suit for the actions of multiple independent parties, unless those actions were carried out under the defendant's direction or control. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007); *Muniauction, Inc. v. Thompson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008). That rule provided innovators (including network providers) reasonable assurance that, where they did not dictate the infringing conduct, divided infringement claims could be resolved efficiently. If a plaintiff failed to show direct infringement by a single defendant, or could not demonstrate that a single actor exercised direction and control over all the collectively infringing actions of multiple actors, then such claims could be disposed of before the onset of costly discovery or trial. *See, e.g.*, *IpVenture, Inc. v. Cellco P'ship*, No. C 10-04755 JSW, 2011 WL 207978, at *3 (N.D. Cal. Jan. 21, 2011) (dismissing inducement claim against Sprint and AT&T because "Plaintiff has failed to allege a third party who directly infringes the patent").

Under the Federal Circuit's unprecedented inducement-only rule, however, patent plaintiffs have no such threshold to surmount. Instead, companies are now potentially on the hook for induced infringement if plaintiffs allege that they in any way "aid" or "cause" any number of independent third parties to perform steps—each innocent in its own right—that

would have constituted direct infringement *if (and only if)* they all had been performed by a single person. *See* Mark D. Janis, *et al.*, *Patent Law's Audience*, 97 MINN. L. REV. 72, 119-120 (2012) (post-*Akamai*, "many future [divided infringement] cases *** will be framed as inducement cases"); Nathaniel Grow, *Joint Patent Infringement Following* Akamai, 51 AM. BUS. L.J. 71, 71 (2014) ("Following *Akamai*, parties are increasingly likely to rely on inducement liability when targeting acts of joint infringement *** and will be able to prevail in cases featuring a much more tenuous relationship between the joint infringers than would be permitted in a direct infringement case").

As a result, activities that have long been deemed innocent and non-infringing now run the risk of ensnaring innovative industries in potentially crippling litigation. In alleging infringement of method patents, patent holders may now aggregate one party's innocent and non-infringing conduct with an unbounded set of other innocent and non-infringing acts by other independent actors. Under the Federal Circuit's new rule, two (or more) rights create a wrong.

By necessity, the actions of independent members of the wireless ecosystem are entwined through a vast array of overlapping technologies, with wireless network providers serving at the hub, all of which coalesce thousands of times a day in phone calls, e-mails, text messages, and internet searches performed on a wireless device. The very technology sharing that lies at the heart of the wireless sector and that drives American innovation

also presents a target-rich environment for patent holders who view infringement claims more as "lottery tickets" than a means by which to protect inventions or further innovation. White House Report at 6, 8. Because they facilitate connections between consumers, developers, and manufacturers of a variety of technologies within the wireless ecosystem, and because they have the means to pay, wireless service providers are particularly susceptible to the threat of onerous infringement litigation sure to arise from the Federal Circuit's inducement-only rule.

To be sure, such claims might ultimately fail for inability to prove a purported inducer's "knowledge" and "intent" for liability under § 271(b), *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011). But such scienter requirements are "'easy to allege and hard to disprove.'" *National Archives & Records Admin. v. Favish*, 541 U.S. 157, 175 (2004) (quoting *Crawford-El v. Britton*, 523 U.S. 574, 585 (1998)). Despite the conceded lack of any direct infringement, that means defendants will have to endure lengthy and burdensome discovery, and possibly even trial, to ferret out a purported inducer's subjective "knowledge" and "intent." *Global-Tech*, 131 S. Ct. at 2068; *see Harlow v. Fitzgerald*, 457 U.S. 800, 816-817 (1982) (noting that "questions of subjective intent *** rarely can be decided by summary judgment"); 10B CHARLES ALAN WRIGHT & ARTHUR R. MILLER, *ET AL.*, FEDERAL PRACTICE AND PROCEDURE § 2732.1 (3d ed. 2012) (in patent suits, "questions of motive or intent *** frequently prevent summary judgment from being entered, since these

issues involve subjective questions regarding state of mind that only can be decided after a full trial").

As a result, the Federal Circuit has all but assured that defendants, including those certain to ultimately prevail on the merits, will no longer be able to resolve such cases "early, on a quick summary judgment motion or even a Rule 12(b)(6) motion." Mark A. Lemley, *et al.*, *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 279-284 (2005). That only increases the pressure to settle even meritless claims—no secret to plaintiffs that look to exploit their patent rights. *See, e.g.*, James Bessen & Michael J. Muerer, *The Direct Cost from NPE Disputes*, 99 CORNELL L. REV. 387 (2014).

Even when defendants elect to fight it out and proceed to trial, pre-litigation tactics common in patent infringement suits can manipulate *Global-Tech*'s knowledge requirement. Some patent holders, especially certain patent assertion entities, routinely send companies demand letters and then attempt to spin receipt of such letters into evidence of a culpable mental state. *See* White House Report at 6 (noting that "conservative estimates" place the number of demand letters sent "last year alone at a minimum of 60,000 and more likely at 100,000," and that "one [non-practicing entity] sent 8,000 notice letters" to various businesses "seeking compensation" for use of equipment that allegedly infringed on one of its patents). Several courts—including the Federal Circuit—have held that a defendant's conduct after the receipt of such a letter (intentional or not) can

serve as a sufficient indicator of knowledge or intent for willful infringement liability.[15]

More concretely, a wireless provider's mere receipt of a demand letter advising it of the purportedly collectively infringing conduct of intermediaries or end users that it has no ability to control exposes the provider to liability. By making it possible—and attractive—to target the hub of the wireless ecosystem, the Federal Circuit's new rule threatens to mire in endless and expensive litigation the very collaboration and interoperability that makes the wireless ecosystem successful.

B. Evidence Since The Federal Circuit's Decision Confirms These Concerns.

These sorts of concerns are by no means hypothetical. The post-*Akamai* reformulation of futile direct infringement cases involving multiple

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[15] *See, e.g., Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1339 (Fed. Cir. 2004) (affirming finding of willful patent infringement where defendant failed to take remedial action following receipt of plaintiff's demand letter); *Telecomm Innovations, LLC v. Ricoh Co.*, Civ. No. 12-1277-SLR, 2013 WL 4017096, at *2-4 (D. Del. Aug. 6, 2013) (finding intent adequately pleaded based on decision to continue providing allegedly infringing device after notice); *L.A. Printex Indus., Inc. v. Lia Lee, Inc.*, No. CV 08-1836 ODW (PJWx), 2009 WL 789877, at *7 (C.D. Cal. Mar. 23, 2009) (granting plaintiff's summary judgment motion in willful copyright infringement claim where infringing product was still being sold after defendant's receipt of demand letter).

independent actors into induced infringement cases is well underway in the lower courts.

Plaintiffs who cannot make a showing of direct infringement have already sought—often successfully—to amend their complaints to add a claim of indirect infringement. *See, e.g.*, *Bascom Research LLC v. Facebook, Inc.*, No. C 12-6293 SI, 2013 WL 968210 (N.D. Cal. Mar. 12, 2013) (granting leave to amend complaints in light of *Akamai* five months after filing of original complaint); *Prism Technologies, LLC v. McAffee, Inc.*, No. 8:10CV220, 2012 WL 5385210 (D. Neb. Nov. 1, 2012) (permitting plaintiff to file third amended complaint more than two years into litigation and two months before trial to allege new induced infringement claims under *Akamai*); Order, *Transunion Intelligence LLC v. Search America, Inc.*, No. 11-cv-1075 PJS/FLN (D. Minn. Nov. 7, 2012), ECF No. 136 (granting leave to amend complaint 31 months after original complaint filed to allege induced infringement); *cf. Apple Inc. v. Samsung Elecs. Co.*, No. 12-CV-0630-LHK (PSG), 2013 WL 3246094 (N.D. Cal. June 26, 2013) (denying motion to amend complaint to allege induced infringement under *Akamai* in part because *Akamai* claims were not raised in prior amendments post-dating *Akamai* decision).

Other courts have reconsidered grants of summary judgment altogether, *see, e.g.*, *Civix-DDI, LLC v. Hotels.com, LP*, No. 05 C 6869, 2012 WL 5383268 (N.D. Ill. Nov. 1, 2012); denied motions for summary judgment outright, *Cassidian Communications, Inc. v. microDATA GIS, Inc.*, No. 2:12-cv-00162-JRG, 2013 WL 6491477 (E.D. Tex. Dec. 10,

2013); or denied motions to dismiss, *Driessen v. Sony Music Entm't*, No. 2:09-CV-0140-CW, 2012 WL 5293039 (D. Utah Oct. 23, 2012).

Additionally, the Federal Circuit has reversed in light of *Akamai* at least two district court decisions granting summary judgment against patent holders. That gives plaintiffs a second bite at the patent infringement apple several years after filing suit. *See Aristocrat Technologies Austl. Pty Ltd. v. International Game Tech.*, 709 F.3d 1348 (Fed. Cir. 2013) (vacating judgment on indirect infringement claims in light of *Akamai* nearly seven years after filing of original complaint); *Move, Inc. v. Real Estate Alliance Ltd*, 709 F.3d 1117 (Fed. Cir. 2013) (vacating judgment six years after filing of original complaint).

II. THE "INDUCEMENT-ONLY" RULE UNDERMINES THE NOTICE FUNCTION OF PATENT CLAIMS BY REWARDING MULTI-ACTOR CLAIMS DRAFTING

A. Unitary Claims Drafting Promotes Patent Law's Critical Notice Function.

Far from supporting sound patent policy or discouraging "evasion of the principles of patent infringement," *see* Pet. App. 23a, the Federal Circuit's novel "inducement-only" rule erects a barrier to the very innovation that the Patent Act is designed to encourage. *See FTC v. Actavis, Inc.*, 133 S. Ct. 2223, 2238 (2013).

The patent system is designed as a "carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances

in technology, in return for an exclusive monopoly for a limited period of time." *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998). By defining the boundaries of the invention, the words comprising a patent claim serve an essential notice function. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373-374 (1996). Clear claims drafting delineates the contours of the monopoly grant and provides "fair warning *** of what will constitute infringement." DONALD CHISUM, CHISUM ON PATENTS § 8.03[3] (1997); *see also* Pet. App. 96a (Linn, J., dissenting).

Clarity in claim scope likewise fosters innovation, as the decision to invest in new technology and its introduction into the marketplace depends on the ability to assess reliably what activities are covered by existing patent claims and what activities are not. *See State Indus. Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1235-1236 (Fed. Cir. 1985) ("One of the benefits of a patent system is its so-called 'negative incentive' to 'design around' a competitor's products, even when they are patented, thus bringing a steady flow of innovations to the marketplace.").

The practice of unitary claims drafting—in which a patent claim is limited to conduct performed by a single entity—enhances the notice function and thus promotes the benefits noted above. Specifically, a unitary claim allows a single actor to determine if it will be liable for infringement based on its own conduct, rather than being forced to speculate about the conduct of independent third parties over which it has no control. That added certainty provides the "fair warning" and incentives for innovation that well-drafted patent claims are intended to produce.

Because "divided" infringement claims were not actionable as either direct or indirect infringement under the pre-*Akamai* rule, that rule reinforced the practice of unitary claims drafting. In other words, patentees had significant incentive to draft claims as covering the conduct of a single entity even if the invention implicated cooperation of multiple entities. *See* ROBERT C. FABER, FABER ON MECHANICS OF PATENT CLAIM DRAFTING § 7:3, 7-7 (6th ed. 2012) ("Advice by this author for drafting a method claim remains as previously. Draft at least some of the method claims to focus on steps to be performed by a single entity."); *see also* WORLD INTELLECTUAL PROPERTY ORGANIZATION, WIPO PATENT DRAFTING MANUAL 103-106 (2007) (encouraging unitary claims in order to provide a "consistent 'point of view'" that "signals the set of parties which could directly infringe a patent claim" to ensure adequate protection of patent rights and ease of licensing). The pre-*Akamai* rule thus furthered the important patent policy goal of permitting a single actor to determine, based on the content of a patent claim, if its own conduct will infringe.

B. The Inducement-Only Rule Hinders The Notice Function By Encouraging Multi-Actor Patent Claims.

The Federal Circuit's decision, however, risks undermining this important notice function. Because infringement liability is no longer cabined to the conduct of a single actor, patentees no longer have an incentive to avoid non-unitary claims that enumerate steps performed by multiple independent actors. Expanding the scope of induced infringement to

sweep in companies that merely "aid" or "cause" independent third parties to take individual actions—actions which practice a patented method only when aggregated—will encourage drafting of vaguer, multi-actor method claims. That, in turn, diminishes the ability of any single entity to predict whether its conduct will incur infringement liability (or at least an infringement suit).[16]

Specifically, patentees will have every incentive to draft their claims to capture the widest possible universe of potential actors, rather than focus their efforts on best capturing the innovative elements of their invention. Patentees will no doubt add steps directed to the activities of a broad spectrum of independent actors for no reason other than to preserve the ability to pick and choose their otherwise-innocent targets under the new "inducement-only" rule. *See* Brendyn M. Reinecke, Akamai: *Patent Claims Are Now Broader Than The Invention*, 2013 WIS. L. REV. 1231, 1239 (2013) ("The *Akamai* rule blurs the scope of patents by allowing the patentee to allocate steps in a method claim to various actors *post hoc*.") (emphasis added).

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[16] Method claims, of course, are already particularly vulnerable to vagueness and overbreadth. *See MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1269 n.4 (Fed. Cir. 2012) (noting that "[b]ecause technology companies are forced to spend enormous sums defending against vague and overbroad software and business method claims, they have far fewer dollars to expend on research and development"). The *Akamai* rule only worsens the problem.

Consider, for example, the following hypothetical claim to a method for delivering a law review article:

> 1. A method for wirelessly retrieving a law review article comprising:
>
> inputting a citation;
>
> transmitting the citation over a wireless communications network;
>
> retrieving a law review article corresponding to the citation; and
>
> providing the law review article over a wireless communications network.

As drafted, the steps of this method are directed to different actors—the "inputting" being done by a user; the "transmitting" being handled by a communications network provider, and the "retrieving" being done by an on-line repository; and the "providing" being done by a combination of the network provider and repository.

Under pre-*Akamai* law, nobody has infringed this claim (directly or indirectly) because none of the actors—the user, the network provider, or the on-line repository—has "utilized" "all steps or stages of the claimed process." *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005). That result makes sense: a network provider should not be saddled with infringement liability just because a user and on-line repository have chosen to use its network to practice a part of a patented claim. Rather, the burden should fall on the claim drafter to capture infringing conduct, because the patentee

"specifically defines the boundaries of his or her exclusive rights [up front] in the claims appended to the patent," and thus "is the least cost avoider of the problem of unenforceable patents due to joint infringement." Pet. App. 96a (Linn, J., dissenting) (citing *BMC Res.*, 498 F.3d at 1381.); *cf. Sage Products, Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) ("Given a choice of imposing the higher costs of careful prosecution on patentees, or imposing the costs of foreclosed business activity on the public at large, this court believes the costs are properly imposed on the group best positioned to determine whether or not a particular invention warrants investment at a higher level, that is, the patentees.").

Under the new "inducement only" rule, however, the result and drafting incentives are the opposite. The focus shifts from describing the inventive elements as cleanly as possible to casting a net wide enough to capture some entity (or entities) with deep pockets. In the law-review example above, the non-infringing actions of the user, wireless network provider, and repository can be aggregated and attributed to any entity that "'aid[ed]'" or "'cause[d]'" those independent parties to act. Pet. App. 8a. The wireless network provider that receives a demand letter from the patent holder alleging infringement of the broadly drafted multi-actor claim for accessing an article could therefore find itself mired in litigation—even though it lacked any control over the conduct of the primarily responsible parties, *i.e.*, the independent user and repository.

The Federal Circuit's effective endorsement and encouragement of imprecisely drafted claims that cast a wide net over multiple actors likely will be felt acutely in the telecommunications industry. Wireless service providers, an obvious potential target, typically do not have complete information about what any number of independent actors (*e.g.*, app developers, device makers, and users) are doing at any point in time. In such a context, the "notice" provided by a diffuse multi-actor claim is illusory: a wireless provider will not have perfect knowledge about—much less be able to control or prevent—the conduct of those other independent actors. The problem is doubly pronounced for method patents implicating wireless providers: even without the added indeterminacy of infringement by as-yet unidentified independent actors, method claims often lack "well-identified claim boundaries, with virtually no implementation details, and with few clues about the quality of claim implementation." Robert E. Thomas, *Debugging Software Patents: Increasing Innovation and Reducing Uncertainty in the Judicial Reform of Software Patent Law*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 191, 217-218 (2008-09).

None of this means that patentees cannot reap the benefit of their inventive conduct under the pre-*Akamai* rule. In the example above, minor revisions to the claim elements would protect the core of the patentee's inventive process while readily providing clear notice to potential competitors—not only as to which actions the claims cover, but also as to how any single actor can modify specific behavior to avoid infringement:

> 1a. A method for wirelessly retrieving a law review article comprising:
>
> ***receiving*** a citation transmitted over a wireless communications network;
>
> retrieving a law review article corresponding to the citation; and
>
> providing the law review article over a wireless communications network.

So drafted, the unitary claim gives notice to relevant competitors—businesses that also store and disseminate law review articles—so they can order their actions without risking infringement.

In sum, by strengthening the notice and public-disclosure function underlying this Country's patent system, unitary claims drafting "promote[s] the Progress of *** useful Arts," U.S. CONST. Art. I, § 8, cl. 8. Tighter claims that are drafted more precisely to capture innovative methods, rather than broadly worded to ensnare the largest number of possible defendants, help technology users and potential innovators determine whether their actions will infringe an existing patent, and thereby stem the rising tide of excessive and unwarranted patent litigation. *See* White House Report at 1, 7 (noting Administration's goal of "fostering clearer patents" as a means of decreasing litigation over "which products and processes are, in fact, protected by *** patent[s]," and promoting the "socially beneficial purpose of promoting technology transfer"). The Federal Circuit's "inducement only" rule unnecessarily and unwisely undermines those goals.

CONCLUSION

For the foregoing reasons, the judgment of the Federal Circuit should be reversed.

Respectfully submitted.

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March 3, 2014

AMICUS CURIAE BRIEF

RECORD AND BRIEFS

No. 12-786

Supreme Court, U.S.
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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICUS CURIAE* ELECTRONIC FRONTIER FOUNDATION IN SUPPORT OF PETITIONER

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INTEREST OF AMICUS CURIAE[1]

The Electronic Frontier Foundation ("EFF") is a nonprofit civil liberties organization that has worked for more than 20 years to protect consumer interests, innovation, and free expression in the digital world. EFF and its more than 29,000 dues-paying members have a strong interest in helping the courts and policy-makers in striking the appropriate balance between intellectual property and the public interest.

Before this case, the Federal Circuit correctly held that multiple parties may only be liable for the same infringement if one party is acting as an agent of the other. This requirement not only comports with longstanding legal and policy principles, it also provides essential protection for third parties who could unknowingly end up as defendants to an expensive patent lawsuit. Opening up third parties to that unacceptable risk could have drastic effects on innovation and experimentation. Some perceive this rule to result in what the Government has called a "statutory gap"—namely, the inability to find infringement when multiple parties perform a patent's claimed steps. Multiple parties performing a single patent's claims is

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1. No counsel for a party authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than the amicus curiae, or its counsel, made a monetary contribution intended to fund its preparation or submission. Petitioner's blanket consent to the filing of amicus briefs was filed with the Court on January 31, 2014; Respondents' counsel consented to this brief's filing in writing on February 20, 2014. Web sites cited in this brief were last visited on February 19, 2014.

something that has become more common with today's software-based inventions. Facing this so-called "gap," the Federal Circuit chose to impermissibly rewrite patent law and dangerously expand the scope of potential liability for inducement under 35 U.S.C. § 271(b).

These issues—of divided infringement and inducement—are of critical importance to consumers and the public interest. As an established advocate for the interests of consumers and innovators, EFF has a perspective to share that is not represented by the parties to these appeals, neither of whom speaks directly for the interests of consumers or the public interest generally.

As part of its mission, EFF has often served as amicus in key patent cases, including *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238 (2011); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010); *Quanta Computer, Inc. v. LG Electronics Inc.*, 553 U.S. 617 (2008); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007); and *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

INTRODUCTION AND SUMMARY OF ARGUMENT

Respondents originally asked the lower court to overturn the line of cases establishing limits on proving divided infringement. Such a ruling would have created a new category of potential patent defendants: third-party users, customers, and consumers, *i.e.*, a group that is likely to lack both requisite knowledge of the patent laws and resources to make a robust defense. Essentially, Respondents asked the court to rewrite patent law so these persons take on risk that they never contemplated and would be hard-pressed to mitigate.

In refusing to do that, the Federal Circuit recognized a so-called "statutory gap" in the law, which "will likely permit vendors such as Limelight to avoid liability altogether." Br. of United States as Amicus Curiae, at 10 (December 2013). Faced with this perceived gap in the patent laws, the Federal Circuit opted to extend the scope of liability for inducement under 35 U.S.C. § 271(b), for the first time allowing a party to be found liable for inducement when there is no underlying instance of direct infringement.

There are several reasons why the Federal Circuit got this wrong. First, there is a much simpler and safer answer to the so-called "statutory gap": careful claim drafting to avoid the joint infringement issues about which the Federal Circuit was apparently concerned and about which Respondents complain. Indeed, rejecting Respondents' unwieldy alternatives, and thereby encouraging such careful drafting, would better fulfill fundamental patent policy. A patent owner only upholds its end of the patent bargain when it drafts claims that clearly put parties on notice of potential infringement. Doing so avoids the uncertainty and potentially unbounded liability that vague claim terms create. That uncertainty is particularly problematic in the software and information technology (IT) areas, and especially burdens third-party users of those technologies.

By the same token, the Court should not be swayed by the Respondents' complaint that requiring the existence of a direct infringer improperly leaves patent owners without an infringement remedy. As several of the lower court's previous cases demonstrate, when a patent owner chooses to assert poorly drafted claims, there is

nothing remarkable or unusual with a resulting finding of noninfringement, or even invalidity.

Second, to the extent this Court may decide to take the issue of joint infringement (*Akamai Technologies, Inc. v. Limelight Networks, Inc.*, No. 12-960), traditional strict liability reasoning counsels against Respondents' expansive view of that doctrine. Patent law—as with most areas of the law—relies on well-settled least-cost-avoider principles to determine which party bears the burden of avoiding harm, and then requires that party to affirmatively act. In the case of infringement, a patent owner has the rare ability to determine the scope of her rights, specifically, by drafting claims that encompass infringing activity. Having given notice in this way, a patent owner may hold intruders on its limited monopoly strictly liable. However, the policies underlying the imposition of strict liability do not reach to third parties, who likely will not benefit from the notice function of the patent they allegedly infringe. As such, economics and fundamental fairness dictate that an unsuspecting third party should not bear the costs of potential infringement. Rather, the patent owner, who may draft her claims however she sees fit, should bear the burden of drafting sensible claims.

ARGUMENT

I. Careful Claim Drafting, Not Broadened Liability, Is the Best Way to Efficiently Protect Both Patent Owners and Third Parties

A. Respondents' Problem Is Better Addressed By More Careful Claim Drafting

The Federal Circuit has essentially attempted to rewrite patent law in order to address a problem that is largely of Respondents'— or any other patent holders'— own making. Patent law requires a patent's specification to "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." 35 U.S.C. § 112(b). This important notice function "promotes the invention, development, and commercialization of innovative products, one of the most important forms of competition, by helping third parties and patent owners avoid 'uncertainty as to their rights.'" Federal Trade Commission, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition 75, (Mar. 2011)[2] ("FTC Report") (citing *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938)); *see also Retractable Tech. Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1311 (Fed. Cir. 2011) (Plager, J., concurring) ("However much desired by the claim drafters, who want claims that serve as business weapons and litigation

2. Available at: http://www.ftc.gov/os/2011/03/110307patentreport.pdf. *See also* FTC Report Recommends Improvements in Patent System to Promote Innovation and Benefit Consumers, Federal Trade Commission (Mar. 7, 2011), http://www.ftc.gov/opa/2011/03/patentreport.shtm.

threats, the claims cannot go beyond the actual invention that entitles the inventor to a patent." (internal citations omitted)).

Unfortunately, vague and poorly drafted claims are common, and that appears to be precisely the case here. For example, here the relevant claim language that involves the third party's "tagging" action is:

> A content delivery method, comprising: distributing a set of page objects across a network of content servers managed by a domain other than a content provider domain, wherein the network of content servers are organized into a set of regions; for a given page normally served from the content provider domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain; in response to a client request for an embedded object of the page: resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

U.S. Patent No. 6,108,703, claim 34 (filed May 19, 1999) (emphasis added).

Respondents' claims might have been drafted to focus on a single entity. Mark A. Lemley, *et al.*, *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 272-75 (2005) (listing examples of how to redraft claims to avoid claims that can be practiced by multiple parties). For example, in Respondents' claim 34 reproduced above, the server side performed all the claimed steps except the "tagging" step, which was performed by the third party. The "tagging" step could easily have been drafted to provide for action by the server side also, as shown by this example (additions to the actual claim language are underlined, deletions are in strikethrough):

> for a given page normally served from the content provider domain, receiving at the server at least some tagged ~~tagging at least some of the~~ embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain;

Such a simple change would have helped alleviate any problem Respondents would have in enforcing their patent, at a far lower cost than the dramatic legal shift Respondents requested and the Federal Circuit granted.

B. There is Nothing Remarkable About a Patent That, for Practical Purposes, Cannot be Infringed

Respondents argue that the single party rule renders some patents unenforceable, leaving patent owners "without a patent infringement remedy." Respondents' Brief in Opposition to Petition for a Writ of Certiorari (April 3, 2013) at 32 ("Respondents' Cert. Opp."). By

relying on inducement to reach at these so-called instances of joint infringement, the Federal Circuit apparently agreed. But what Respondents essentially argue is that all issued patents must be enforceable and capable of being infringed—even if better claim drafting would have resulted in different claims that unquestionably could be infringed. *See Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1349-51 (Fed. Cir. 2012) (en banc) (Linn, J., dissenting) (noting that "the claim drafter is the least cost avoider of the problem of unenforceable patents due to joint infringement"); *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007), *overruled in part* by *Akamai*, 692 F.3d at 1306.

However, there is nothing remarkable about patents that cannot be infringed or enforced because of poor claim drafting. A leading example from the lower court is *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373-75 (Fed. Cir. 2004). That case involved a patent for cooking dough: the claims required heating the dough to a temperature "in the range of about 400° F. to 850° F." *Id.* at 1371. The only problem was that doing so would burn the dough "to a crisp." *Id.* at 1373. The defendant understandably did not perform this step of the patented method. The Federal Circuit affirmed a judgment of non-infringement, notwithstanding the fact that the patent was, as here, effectively left unenforceable. The court refused to rewrite the claims to read heat the "dough ***at*** a temperature" instead of what was written, heat the "dough ***to*** a temperature." *See id.* at 1373, 1375 (emphasis added). As a result, the court declined to preserve the patent rights that Respondents here urge must always be present. The court agreed with the district court's assessment of the case:

> Courts are not permitted to redraft claims .... Plaintiff's patent could have easily been written to reflect the construction plaintiff attempts to give it today. It is the job of the patentee, and not the court, to write patents carefully and consistently.

Id. at 1373.

In more extreme circumstances, the Federal Circuit has held claims invalid because of poor drafting, thus precluding their enforcement against anyone. *See Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357-1359 (Fed. Cir. 1999) (claim was held invalid under 35 U.S.C. § 112 because, as written, it recited an impossibility); *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002) (holding that "perpendicular" does not mean "parallel," hence claim was invalid).

The patent owners in *Chef Am.*, *Process Control* and *Allen Eng'g*—as well as Respondents in this case—could each have drafted their claims to help avoid the outcome of which Respondents complain. Penalizing inadequate drafting is a good way to encourage patent applicants to write better claims. And in any event, the fact that some claims are poorly drafted, resulting in unenforceable patents, is no reason to rewrite the law on inducement or joint liability.

C. Inadequate Claim Drafting Heightens the Risk to Third Parties

The notice function serves an important role in the larger patent bargain: in order to obtain a limited monopoly, a patent owner must teach the public how to practice the technology and also "apprise the public of what is still open to them." *McClain v. Ortmayer*, 141 U.S. 419, 424 (1891); *PSC Computer Prods. v. Foxconn Int'l*, 355 F.3d 1353, 1359 (Fed. Cir. 2004). Yet, while important, the public notice function of software patents—often the type covering "interactive methods"—is notoriously ineffective, even for those skilled in the relevant art.

For example, the FTC states that little clarity exists in claim language typically used in software patents and, as a result, many in the IT sector have admitted to "frequently" not performing clearance searches and even simply ignoring patents. FTC Report at 80 ("the notice function 'is not well served at all'"), 83 (noting a "fundamentally poor fit" between claim language and software-related patents). The problem is exacerbated by the fact that many "features are embodied in components supplied by other manufacturers," leaving even those highly skilled in the art unable to ascertain the complicated and relevant patent landscape. *Id.* at 90.[3]

If highly-skilled IT workers have a hard time searching and understanding the relevance of software

3. Raising the standard for the written description requirement, *Ex parte Miyazaki*, No. 2007-3300, 2008 WL 5105055, 89 U.S.P.Q.2d 1207, 1212 (Bd. Pat. App. & Inter., Nov. 19, 2008), has helped mitigate the problem somewhat. Unfortunately, it is still acutely felt, especially in the context of software patents.

patents, it is difficult to imagine how a third-party user, developer, or consumer operating far downstream would be able to do so. Indeed, the claim language in the patent at issue here has been carefully parsed by patent examiners and patent attorneys, yet it still was not clear enough to avoid protracted litigation. *See, e.g*, Order Regarding Claim Construction, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, No. 1:06-cv-11109 (D. Mass. June 29, 2007). If patent professionals and those skilled in the art have a difficult time understanding what exactly these claims cover (which is no wonder from their language), it is a rare third-party user or consumer who will. And more and more frequently, it is those third-party users and consumers who face patent threats.

For instance, "six out of the top ten patent litigation campaigns exclusively named companies for whom the adoption of another's technology was the basis for infringement." Colleen V. Chien and Edward Reines, *Why Technology Customers are Being Sued En Masse for Patent Infringement & What Can Be Done*, Santa Clara University School of Law Working Paper No. 20-13 (August 2013)[4] ("Chien & Reines") at 2. And the research shows that the

> burden for these suits falls disproportionately on small companies, and too often results in nuisance settlements based on the high cost of defending a patent case, not the merits of the claim.

Id. at 4.

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4. Available at: http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1799&context=facpubs

This leaves countless potential third-party defendants without the benefit of the important notice function of the patents being asserted against them. Third parties will be left with no option but to accept unforeseen (and often unacceptable) risks. This is not how an efficient market works. *See* Siddharth Khanijou, Patent Inequity?: Rethinking the Application of Strict Liability to Patent Law in the Nanotechnology Era, 12 J. Tech. L. & Pol'y 179, 195 (2007) ("[I]nadvertent users have no opportunity to transact or bargain for use of proprietary technology ahead of time because they have no knowledge of its possession. Patent enforcement, therefore, would serve as a means for patentees to extract 'rents' from individuals that never intended to use the patented technology.").

II. To the Extent This Court Takes Up the Question of Joint Infringement, the Federal Circuit's Current Rule is Necessary to Protect Third Parties

A. Respondents' Approach Would Put Unsuspecting Third Parties At Risk of Litigation

Respondents ask this Court to rewrite patent law so that any actor who performs a step of a patent claim could be held "jointly and severally liable for direct infringement under § 271(a)"--even if the rest of the steps are performed by others. Respondents' Cert. Opp. at 38. The ramifications of such a change are extraordinary and absurd: depending on how a claim is drafted, any downstream user of a technology—such as a Limelight customer who tags his content or a patient who initiates communication with her doctor—could find herself liable for infringement. Such a change would both harm those unsuspecting parties and

do nothing to further the fundamental goal of the patent system: spurring innovation. *See* Khanijou, *supra*, at 195 ("The goal of increasing inventive activity is not furthered by making an innocent possessor who derives no benefit from the technology, and may in fact suffer harm, liable for infringement.").

Respondents attempt to avoid the obvious implications of their theory by suggesting that liability would apply only to knowing infringers. Respondents' Cert. Opp. at 28-30. But patent infringement is a strict liability tort. 35 U.S.C. § 271 (a). *See also Florida Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627, 645 (1999) ("Actions predicated on direct patent infringement . . . do not require any showing of intent to infringe; instead, knowledge and intent are considered only with respect to damages."); 5 D. Chisum, Patents § 16.02[2], 16-31 (rev. ed. 1998) ("It is, of course, elementary, that an infringement may be entirely inadvertent and unintentional and without knowledge of the patent."). And, patent law "is created and defined by statute." *North Am. Phillips Corp. v. Am. Vending Sales, Inc.*, 35 F.3d 1576, 1579 (Fed. Cir. 1994). Unless Congress modifies the statute, Respondents' manufactured limitation cannot hold.

To be clear, the possibility that unsuspecting third parties might face litigation is not at all far-fetched. Recent events underscore the risk that patent plaintiffs will indeed threaten—and in some instances, actually sue—downstream users of a technology, where those users often lack indemnification. For example, Lodsys, LLC, has sued more than 30 application developer defendants for infringement in the Eastern District of Texas. *See, e.g.*, Apple's Redacted Opposition to Lodsys's

Motion to Dismiss at 8, *Lodsys, LLC v. Brother Int'l Corp.*, No. 2:11-CV-90-JRG (E.D. Tex. Sept. 18, 2013), ECF No. 995-1 (listing numerous suits filed by Lodsys against app developers). Those defendants—each of which developed applications for Apple's iPhone and Google's Android operating systems—allegedly infringe patents for in-application purchases and upgrades. Notably, Apple and Google provided the technology to each of the defendants and mandated its use in developing applications for their products.[5] Apple and Google have taken licenses from Lodsys,[6] leaving them immune from suit, but Lodsys alleges that those licenses do not apply to the developers, and Apple and Google have chosen not to indemnify them.[7] So the developers—using technology they are required to use by others and, in many cases, lacking the means

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5. This further highlights the allocation of burden problem, *infra* Part II.B. Here, application developers are much less likely to conduct thorough searches surrounding technology provided to them by companies such as Apple and Google. The resulting lawsuits on unsuspecting developers operate essentially as a tax on innovation that has reportedly driven many developers from the U.S. market. *See, e.g.*, Charles Arthur, *App Developers Withdraw From US as Patent Fears Reach 'Tipping Point'*, The Guardian Apps Blog (July 15, 2011), http://www.guardian.co.uk/technology/appsblog/2011/jul/15/app-developers-withdraw-us-patents.

6. *See, e.g.*, Lodsys, LLC (May 15, 2011), http://www.lodsys.com/1/post/2011/05/q-lodsys-is-trying-to-force-apple-to-take-a-license-by-pressuring-ios-developers.html; Lodsys, LLC (May 15, 2011), http://www.lodsys.com/1/post/2011/05/q-what-about-other-operating-systems-such-as-android.html.

7. *See, e.g.*, Lodsys, LLC (May 15, 2011), http://www.lodsys.com/1/post/2011/05/q-i-developed-on-apple-ios-or-other-platform-why-isnt-apple-or-other-os-vendor-responsible-or-taking-care-of-this-issue.html.

to defend themselves—find themselves facing expensive litigation they could not possible have anticipated for using technology provided by third parties.

Or Innovatio, a company that, "using a portfolio of 31 patents directed at the 802.11 wireless communication standard (most of which are expired or lapsed) . . . has made demands of over 13,000 small and large end-users of wi-fi technology using devices sold by Cisco, Netgear, Apple, and others." *Chien & Reines*, at 19. Recently, it was reported that Cisco reached a settlement with Innovatio, paying the non-practicing entity upward of $3 million to leave Cisco's customers alone.[8]

These Lodsys and Innovatio cases show that no party—whether a developer, consumer, or user—can be certain she will escape a patent suit if she performs a step in a patented invention.

B. The Least Cost Avoider Principle Favors the Single-Party Rule

It is axiomatic that the party in a position to best eliminate harm should bear the costs of that harm. *See, e.g., United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) ("if the probability be called P; the injury, L; and the burden, B; liability depends upon whether B is less than L multiplied by P: *i.e.*, whether B less than PL"). Imposition of strict liability takes Judge Hand's formula one step further by codifying the creation of incentives targeted at the least cost avoider to remove the threat of injury to society. As Judge Posner explained:

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8. *See* http://blogs.cisco.com/news/innovatio-case-victory-for-cisco-customers-makes-the-case-for-patent-reform/

> By making the actor strictly liable—by denying him in other words an excuse based on his inability to avoid accidents by being more careful—we give him an incentive, missing in a negligence regime, to experiment with methods of preventing accidents that involve not greater exertions of care, assumed to be futile, but instead relocating, changing, or reducing (perhaps to the vanishing point) the activity giving rise to the accident.

Ind. Harbor Belt R. Co. v. Am. Cyanamid Co., 916 F.2d 1174, 1177 (7th Cir. 1990).

Patent law has long reflected this same calculation, placing the burden of avoiding harm (*i.e.*, infringement) on the party in the best position to avoid it. On the one hand, if a potential user wants to use patented technology, he is responsible to seek and obtain the proper license, when he has knowledge that the technology is patented. *See, e.g., In re Seagate Tech., LLC*, 497 F.3d 1360, 1368-69 (Fed. Cir. 2007). On the other hand, it is a patent owner who bears the burden of monitoring and prosecuting infringement, because she is in the best position to do so. *See Wamlass v. Gen. Elec. Co.*, 148 F.3d 1334, 1339 (Fed. Cir. 1998):

> Allocating the burden to patentees to seek out infringers is proper, furthermore, because compared to potential infringers, they are in the best position to know the scope of their patent protection and, therefore, also to know likely places to find infringement. This superior knowledge generally allows them to incur comparatively lower costs in

> investigating potentially infringing activities than competitors would incur conducting patent searches on every aspect of their products and notifying the patentee of their results.

By the same token, it is the patent owner's burden to draft proper claims that define the scope of her rights. As the lower court stated in another case:

> as between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure.

Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1425 (Fed. Cir. 1997). *See also Akamai*, 692 F.3d at 1350 (Linn, J., dissenting) ("the claim drafter is the least cost avoider of the problem of unenforceable patents due to joint infringement, and this court is unwise to overrule decades of precedent in an attempt to enforce poorly-drafted patents.").

This rule is rooted in principles of fairness and economics. Attention to fundamental fairness is particularly important in cases where a party's choice to broaden the scope of her patent (for instance, by growing liability to cover more than one actor) could, on Respondents' theory, leave unsuspecting third parties legally—and financially—liable for infringement. Imposing *ex post facto* liability on infringing parties—particularly third parties who unknowingly perform only one step of a claimed invention—opens them up to risks

they neither intended to take nor could have anticipated. Such imposition of liability would remove the burden from the party best-positioned to bear it (the patent owner) and impermissibly shifts it to a third party in the *worst* position to bear it.

Economic factors likewise counsel that a potential third-party defendant is particularly ill-suited to bear the cost of avoiding infringement. In theory, the patent system should work to put potentially infringing parties on notice of existing patents, leaving those parties to either design a work-around[9] or take a license from the patent owner. In most cases, the system accomplishes this goal based on its strict liability regime by creating incentives for potential infringers to complete thorough patent searches before launching a product:

> Since the total costs to the potential infringer are all of the costs borne by anyone, these are also the social cost associated with possible infringement. Thus, a rule of strict liability

9. The law favors designing around existing patents. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991) ("designing or inventing around patents to make new inventions is encouraged"); *State Indus., Inc. v. A. O. Smith Corp.*, 751 F.2d 1226, 1235-36 (Fed. Cir. 1985) ("One of the benefits of a patent system is its so-called 'negative incentive' to 'design around' a competitor's products, even when they are patented, thus bringing a steady flow of innovations to the marketplace."). It does not make sense to punish parties for finding new and different ways to practice an invention—even when those new ways include different parties practicing the claimed steps. If a party has taken the time to research a successful design-around, such as those implemented by Limelight, it should bear the fruit of its work by practicing its product or service without liability.

> leads to the socially optimal amount of search (S*), *i.e.*, the social cost minimizing quantity of search. Strict liability for patent infringement is allocatively efficient in the sense that the socially efficient quantity of resources is allocated to searching patent records and analyzing them for possible infringement.

Roger D. Blair & Thomas F. Cotter, *Strict Liability and its Alternatives in Patent Law*, 17 Berkeley. Tech. L.J. 799, 823 (2002).

This delicate balance of socially optimal search amounts is thrown off, however, when unknowing and unprepared downstream users become potential infringers. Those users lack incentives (and oftentimes requisite knowledge and resources) to search. Thus, imposing this burden on them does little to help avoid infringement. Instead, it simply encourages the proliferation of expensive litigation. For example, a potential plaintiff who would rather sue than exercise the bargained-for monopoly over its invention would likely benefit from imperfect searching, as it would lead to more potential infringements.

It makes no sense to depart from well-established least-cost avoider principles in patent law by extending liability to such potential defendants who unknowingly use a small part of a patented technology. Following Judge Posner's logic in *Indiana Harbor*, the only way those potential "joint infringers" could change their behavior to avoid liability would be to not engage in the behavior at all—in other words, not try new products or services, hampering the economy and inhibiting innovation.

CONCLUSION

When it ruled on this case, the Federal Circuit was correct in choosing to not expand the divided infringement doctrine beyond the statutory language that requires one party to perform all of a claim's steps to find infringement. Unfortunately, it didn't stop there. The Federal Circuit instead chose to impermissibly rewrite 35 U.S.C. 271(b). Respectfully, we urge this Court to reign in the Federal Circuit's attempts to legislate the patent laws.

March 3, 2014 Respectfully submitted,

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AMICUS CURIAE BRIEF

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In the

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LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., ET AL.
Respondents.

On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

BRIEF OF *AMICUS CURIAE* ELI LILLY AND COMPANY, SUPPORTING RESPONDENTS

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INTEREST OF AMICUS CURIAE[1]

Eli Lilly and Company ("Lilly") is a research-based pharmaceutical company headquartered in Indianapolis, Indiana that discovers, develops, and markets important and valuable new medicines. Lilly, together with the pharmaceutical industry as a whole, spends tens of billions of dollars annually on research and development related to bringing new medicines to the market. That research and development relates to understanding different diseases, discovering and validating potential drug targets, and discovering and developing drugs that interact with those targets to treat such diseases. It is often the case that new uses are discovered while working with known (or old) compounds. Because the compounds are known, often the only type of patent claim that will protect these particular drug products is one directed to a method of treatment.

Although this case specifically relates to the question of whether a defendant that performs some steps of a patented method and actively induces its customers to perform the remaining steps is liable for inducement of infringement under 35 U.S.C. § 271(b), the outcome will directly impact situations

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[1] Pursuant to this Court's Rule 37.3(a), petitioner has provided written consent, on file with the clerk, to the filing of briefs in support of either or neither party. Respondent has provided written consent for the filing of this brief, submitted herewith. Pursuant to this Court's Rule 37.6, *amicus* states that this brief was not authored in whole or in part by counsel for any party, and that no person or entity other than *amicus* or its counsel made a monetary contribution intended to fund the preparation or submission of this brief.

where the defendant does not practice any steps of the claimed method, yet actively induces others to practice the steps of the method.

The steps of method of treatment claims are sometimes unavoidably practiced by more than one entity, but often the practice of the claim is induced by a single culpable entity. Thus, it is important that the infringement laws prevent such culpable entities that stand to make significant profits at the expense of patentees from circumventing infringement liability.

SUMMARY OF THE ARGUMENT

The Federal Circuit's *en banc* decision in *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307-08 (Fed. Cir. 2012) provides the needed incentive to innovate in areas of technology where method patents are critical to capture such innovation. In areas of technology such as new treatment methods in the pharmaceutical and diagnostic industries, where it is often difficult or impossible to assert method patent claims against direct infringers, it is imperative that patentees are able to assert such claims under 35 U.S.C. § 271(b).

The *en banc* court had two choices to ensure the continued value of claims such as method of treatment claims. The court could either 1) focus solely on the culpable conduct of the "inducer," and leave the law addressing the standard for joint infringement under 35 U.S.C. § 271(a) untouched, or 2) focus on both the culpable conduct of the inducer and the entity (or entities) being induced, by requiring that there be liable direct infringers before allowing a claim of inducement and thus, overrule

the agency standard required for joint infringement under 35 U.S.C. § 271(a) that has evolved since *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007).

The *en banc* majority focused on the actions of the inducer by deciding that, regardless of whatever standard for joint infringement under section 271(a) is appropriate, that standard is irrelevant to the inquiry under section 271(b). So long as all the steps of the method are performed, and there is "active inducement" of that performance by another, who may or may not be practicing any of the method steps himself, section 271(b) liability may be found. This is the correct approach.

This approach is consistent with the policy underlying inducement law, which is to ensure effective protection for patentees when direct infringers are either not truly the culpable parties and/or are impractical to sue. Directing the inquiry to the actions of the inducer rather than to those induced, is completely in line with giving patentees a remedy when pursuing claims against direct infringers is problematic. This is precisely the case with method of treatment claims where suing doctors, pharmacists, patients, and laboratory technicians is inconsistent with the purpose of the innovation which is to help patients and actually impossible to do in the context of Hatch-Waxman litigation.

Further, the "knowledge" and "intent" requirements of induced infringement, well-developed through decisions of this Court as well as the Federal Circuit, serve the function of ensuring that only culpable conduct on the part of the accused inducer is punished regardless of whether there are

culpable direct infringers. The inducer must know that acts he or she is inducing constitute acts of patent infringement (not necessarily that such actors are all themselves liable) and must take affirmative steps to bring about these acts. This standard again rightly focuses on the culpable conduct of the inducer. This is especially apropos in the context of pharmaceutical litigation where the alleged infringer is a generic company who is seeking to blatantly copy the invention and profit from the research investment of the innovator. There is no doubt the inducing party is the culpable actor.

Common law tort concepts fully support the *en banc* majority's reasoning in this case. Those concepts seek to identify an injury, assess the damage, and then compensate the victim in an attempt to make him or her whole. The Federal Circuit's decision makes it possible to do exactly that in the context of patent infringement.

A decision by this Court that there must be liable direct infringers under section 271(a) in order to pursue a claim for induced infringement under section 271(b), will require the Court to consider the appropriate standard for joint infringement under section 271(a). The "single-entity" rule, which has developed over the past several years since the *BMC* case was decided, is not the correct standard for finding joint infringement liability under section 271(a). Only a flexible approach that weighs factors that bear on the extent to which the actors are cooperating, collaborating, or conspiring to perform the steps of a method will further the policy of promoting innovation in areas of technology where method claims may be the only and best way to protect inventions. This is a policy goal that should

be furthered not only by a proper interpretation of section 271(b) but the entire section 271 infringement law.

ARGUMENT

I. A Rule of Law that Requires a "Single Entity" to Directly Practice All the Steps of a Method As a Prerequisite to Finding Liability Under 35 U.S.C. § 271(b) Will Undermine Patent Protection Provided By Method of Treatment Claims.

Method of treatment claims provide necessary and valuable protection for innovation that encompasses finding new treatments and tailored therapies for important life-saving diseases. Such claims routinely involve divided infringement issues, and the patent law should support infringement actions under section 271(b).

A. The Ability to Assert Method of Treatment Claims Is a Critical Incentive for Pharmaceutical and Biotechnology Companies to Discover and Develop New Medicines.

In the pharmaceutical industry, it is commonplace for an invention to embody a new use of an old compound. Indeed, some significant advances in modern medicine have involved such

innovation.[2] Thus, it is sometimes the case where primary patent protection comes in the form of a method of treatment claim.

One specific example of this from Lilly's own work involves a marketed Lilly drug known as Strattera®. Strattera® is indicated for the treatment of attention deficit hyperactivity disorder (ADHD) in both adults and children and was the very first non-stimulant ADHD medication to be marketed. Atomoxetine (the generic name of the drug) was originally discovered in the early 1970s (*see* U.S. Patent No. 4,314,081 (filed Jan. 10, 1974)) and pursued for the treatment of depression and urinary incontinence. It failed to show efficacy for

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[2] Because of the common molecular origins of diverse diseases, it is estimated that approximately 90% of approved drugs possess secondary indications and can be used for other purposes. Annetine C. Gelijns et al., *Capturing the Unexpected Benefits of Medical Research*, 339 N. Engl. J. Med. 693, 695 (1998). For example: Meclazine indicated for nausea, later discovered to treat cancer; Cannabidiol indicated for nausea, later discovered to treat cancer; Perphenazine originally indicated as an antipsychotic, later discovered to treat T-cell acute lymphoblastic leukemia; Losartan originally indicated for blood pressure control, later discovered to treat breast and pancreatic cancer; and Statins originally approved as cholesterol lowering agents, recently found to show efficacy in treating colon cancer. Additionally, the following old compounds have now received FDA approval to treat various cancers: Thalidomide originally a sedative, later discovered for treatment of multiple myeloma; Celecoxib originally a pain reliever, later discovered for treatment of familial adenomatous polyposis; Methotrexate originally an anti-malarial, later discovered for treatment of osteosarcoma, breast cancer, acute lymphoblastic leukemia, and Hodgkin lymphoma; and Zoledronic acid, a bisphosphonate originally discovered to treat osteoporosis, later discovered for the treatment of metastatic bone disease.

those indications. *Eli Lilly and Company v. Actavis Elizabeth, LLC.*, 435 Fed. App'x 917, 920 (Fed. Cir. 2011). Eventually it was discovered that atomoxetine was useful to treat ADHD, and Lilly applied for a method of treatment patent that was granted as U.S. Patent No. 5,658,590 (filed Jan. 11, 1995). By the time Lilly was ready to market the drug for ADHD, the compound patent had expired, so the only patent protection available was the method of treatment patent filed after Lilly discovered this new "use" for the drug. Ten generic drug companies initially challenged the patent under the Drug Price Competition and Patent Term Restoration Act of 1984 ("Hatch-Waxman Act")[3] seeking to invalidate the patent. *Lilly,* 435 Fed. App'x at 917. The Federal Circuit upheld the validity of the patent and found the generic drug companies liable for induced infringement under 35 U.S.C. § 271(b). *Id.* This patent was the only protection for the necessary investment of a decade and hundreds of millions of dollars of research and development efforts to bring atomoxetine to patients. An inability to enforce such a patent would have allowed generic drugs to enter the market long before Lilly could have recouped its investment, or worse it would have foreclosed the investment in continued research on atomoxetine in the first instance, such that the successful treatment for patients would have never been discovered.

Another example relates to Byetta®, which is a drug co-developed by Lilly and Amylin Pharmaceuticals.[4] The primary patent protection

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[3] Public L. No. 98-417, 98 Stat. 1585.

[4] Byetta® is now owned by Bristol-Myers Squibb

for Byetta® is also a method of treatment patent. The structure of the compound was discovered as part of the venom of the gila monster years before it was determined that it was useful to treat type 2 diabetes. *See* U.S. Patent No. 5,424,286 (filed May 24, 1993). The investment necessary to convert the compound from a component of venom to an actual medicine would never have occurred in the absence of patent protection in the form of a method of treatment.

Given that it takes a significant number of years to develop a medicine for a particular use and given that the cost of such development can approach a billion dollars, it is imperative that innovators in the pharmaceutical industry be able to obtain patents that can be enforced against copiers. *See generally* Matthew Herper, *The Cost of Creating a New Drug $5 Billion Pushing Big Pharma to Change*, FORBES, Aug. 11, 2013, http://www.forbes.com/sites/matthewherper/2013/08/11/how-the-staggering-cost-of-inventing-new-drugs-is-shaping-the-future-of-medicine/. Enforceable patent rights in the form of method of treatment claims are critical to encourage the development of drugs that are not themselves patentable but that can be used to treat conditions with few or no medical options.

B. Method of Treatment Claims Present Divided Infringement Issues and the Law Should Support Asserting Such Claims Against Culpable Infringers Under 35 U.S.C. § 271(b).

Method of treatment claims routinely and sometimes necessarily present divided infringement issues. For example, arguments have been made that even a simple claim directed for example to a "method of treating disease X comprising administering drug Y to a patient in need thereof," requires multiple actors to infringe the claim. This is because a physician will be required to diagnose the disease and write a prescription for a patient in need thereof, a pharmacist will fill the prescription, and a patient or another healthcare provider will administer the drug. The situation is even more complicated with combination therapy claims where more than one drug is administered to a patient or with method claims that require a doctor to determine whether a particular marker is present or absent in a biological tissue before writing a prescription or administering a drug.[5] Thus, for method of treatment claims it is not uncommon that

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[5] For example, U.S. Patent No. 8,632,983 (filed Apr. 15, 2005) is focused on methods of treating pancreatic cancer that involve taking a sample from the patient and assessing whether certain markers are present before treating; and U.S. Patent No. 8,628,920 (filed Aug. 29, 2011) is focused on treating metastatic liver cancer, and claims methods that involve assessing whether certain genes are expressed in a biological sample from the patient.

to practice all the steps, a doctor, nurse, laboratory technician, pharmacist, and patient may be needed.

It has been increasingly common for patent challengers to argue that the relationship between these various actors does not meet the current standard articulated by the Federal Circuit necessary to find liability for direct infringement under 35 U.S.C. § 271(a). Under current Federal Circuit law, liability for infringement under section 271(a) can be found when a multiple-step process is performed by multiple actors, but only if a single actor acts as a "mastermind" who controls or directs all the other actors. *BMC*, 498 F.3d at 1378-81. Such control or direction requires more than the arm's length interactions within the health care system.

Under the Federal Circuit's "control or direction" test as further articulated in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), a physician and patient would likely not have the required relationship to directly infringe under section 271(a). Indeed, the now vacated panel decision in *McKesson Tech. Inc. v. Epic Sys. Corp.*, 98 U.S.P.Q.2d 1281 (Fed. Cir. 2011), which did consider section 271(a), found the doctor-patient relationship lacked the required "control or direction." The panel stated: "A doctor-patient relationship does not by itself give rise to an agency relationship or impose on patients a contractual obligation such that the voluntary actions of patients can be said to represent the vicarious actions of their doctors." *Id.* at 1284 (opinion vacated by *McKesson Tech. Inc. v. Epic Sys. Corp.*, 463 Fed. App'x 906 (Fed. Cir. 2011)). Additional actors such as other health care providers, pharmacists and laboratory technicians

would also not meet the court's "control or direction" test. Although the *Akamai* and *McKesson* cases were remanded by the Federal Circuit's *en banc* decision, the "control or direction" test remains unchanged in the context of determining infringement under section 271(a). *Akamai*, 692 F.3d at 1307 ("Because the reasoning of our decision today is not predicated on the doctrine of direct infringement, we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a).").

Furthermore, pursuing direct infringement under 35 U.S.C. § 271(a) is generally not an option for pharmaceutical and diagnostic companies. This is not because multiple parties are needed to practice the steps of the claim, but rather because suing direct infringers would result in punishing health care providers for the appropriate practice of medicine. Thus, section 271(b) is often the only infringement provision under which pharmaceutical and diagnostic innovators can protect their inventions.

The typical case of inducement for pharmaceutical innovators arises when a generic drug company seeks approval from the FDA to sell a generic version of a patented medicine before expiry of the patents covering the medicine. This occurs when the generic company files an Abbreviated New Drug Application (ANDA) and certifies that one or more patents listed by the innovator are invalid and/or not-infringed, a so-called paragraph IV certification. 21 U.S.C. § 355(j)(2)(A)(vii)(IV).

The relevant statute provides that it shall be an act of infringement to submit an ANDA "if the

purpose of such submission is to obtain approval . . . to engage in the commercial manufacture, use, or sale of a drug . . . claimed in a patent or the use of which is claimed in a patent before the expiration of such patent." 35 U.S.C. § 271(e)(2) (emphasis added). Thus, the filing of an ANDA that includes a paragraph IV certification is deemed an act of infringement, but solely for jurisdictional purposes. *See Bayer AG. v. Elan Pharm. Research Corp.*, 212 F.3d 1241 (Fed. Cir. 2000); *Glaxo, Inc. v. Novopharm, Ltd.*, 110 F.3d 1562 (Fed. Cir. 1997). Even though the filing of the ANDA is technically an act of infringement, the patentee must still prove infringement under the appropriate section of 35 U.S.C. § 271 during the ensuing lawsuit ("Hatch-Waxman Litigation"). *See, e.g., Astrazeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1056 (Fed. Cir. 2010). Litigation occurs prior to approval and launch of the generic drug product. Thus, the focus of the infringement inquiry is on the drug label as evidence of the infringement that would occur in the future if the generic drug were to be launched.

Clearly, Congress envisioned method of treatment patents to be subject to this law and to be enforced during Hatch-Waxman Litigation as evidenced by the words "or the use of which is claimed in a patent." 35 U.S.C. § 271(e)(2). Further, if a method of treatment claim is being asserted in Hatch-Waxman Litigation, necessarily only section 271(b) is available to the patentee. This is because the generic drug company is the defendant and not physicians and patients who directly practice the steps of the method. The generic drug company generally does not directly practice any of the steps of a method of treatment claim. The focus of the

infringement proceedings is thus on the generic drug label which supplies the evidence for active inducement by providing instructions to physicians or other health care providers in terms of how to use the relevant drug.

It would make little sense for the statutory language to specifically mention the "use of which is claimed in a patent" and then foreclose the ability to assert such patents under section 271(b) because doctors, patients, pharmacists, and potentially other health care providers were required to practice the steps of the method and such actors failed to pass the "control or direction" test as articulated in the *BMC* case.

Thus, it is imperative that the law support finding a defendant liable for induced infringement when such defendant has knowledge of a patent, and profits from actively inducing one or more actors to perform steps of a method claim in that patent such that all the steps are performed. Actors need not be in an agency relationship or contractually bound to each other but instead can have collaborative or cooperative relationships with each other such as those between doctors or other health care providers, patients, pharmacists, and laboratory technicians. Otherwise the law will act as a disincentive for pharmaceutical and biotechnology companies to work with drugs where method of treatment claims provide the primary patent protection for the drug.

II. The Federal Circuit Rightly Reasoned That a Decision on Whether a Defendant Is Liable for Induced Infringement Can Be Made Without Addressing what Standard Is Necessary to Find Liability Under Section 271(a) When Multiple Actors are Required to Practice the Steps of a Method.

The Federal Circuit's decision in *Akamai* is consistent with the policy underlying inducement law, the "knowledge" and "intent" requirements associated with inducement law, and common-law tort concepts that focus on punishing the wrongdoer who has inflicted a measurable harm.

A. The Law of Induced Infringement Should Be Available When Bringing an Action Under Section 271(a) Is Not Possible.

Induced infringement is a type of secondary liability, the goal of which is to give patentees "effective protection in circumstances in which the actual infringer either is not the truly responsible party or is impractical to sue." Mark A. Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV. 225, 227 (2005); *See Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, LTD,* 545 U.S. 913 (2005). In addressing contributory infringement associated with a method claim directed at applying herbicide, this Court stated that the reason for the contributory infringement doctrine is to:

> protect patent rights from subversion by those who, without directly infringing the patent themselves, engage in acts designed to facilitate infringement by others. This protection is of particular importance in situations . . . where enforcement against direct infringers would be difficult, and where the technicalities of patent law make it relatively easy to profit from another's invention without risking a charge of direct infringement.

Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 188 (1980). Although in *Dawson* the Court was addressing contributory infringement, the doctrines are clearly related and both induced infringement and contributory infringement were codified based on different aspects of the law of contributory infringement that had developed prior to codification. *See* Giles S. Rich, *Infringement Under Section 271 of the Patent Act of 1952*, 21 GEO. WASH. L. REV. 521 (April, 1953); *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2067 (2011).

Focusing on the acts and intent of the inducer rather than on the acts of those being induced is completely consistent with the goal of giving patentees a remedy when pursuing claims against direct infringers is difficult. As mentioned above, method of treatment claims are difficult, if not impossible within Hatch-Waxman Litigation, to assert against direct infringers. The Federal Circuit's decision makes it possible to assert such claims when assertion under section 271(a) is unavailable to the patentee.

Another specific provision of the Patent Act that only makes sense if section 271(b) is interpreted to further the policy goal of providing an avenue to pursue infringement claims when section 271(a) is unavailable is the "Physician's Immunity Statute." 35 U.S.C. § 287(c). This is a specific provision of the patent law that grants immunity from patent infringement to "medical practitioners" and "related health care entities" when they engage in medical and surgical procedures performed on the body.[6] *Id.* This section was enacted to alleviate concerns expressed by the American Medical Association, that without the statute, doctors would not have the freedom to perform life-saving surgical procedures, doctors would be unable to provide adequate patient care, health-care costs would increase for patients, and patient confidentiality could be compromised when doctors and hospitals were sued for patent infringement.

Thus, to avoid section 287(c) making patents covering medical and surgical procedures performed by medical practitioners completely worthless, section 271(b) must be available to assert against indirect infringers. For example, a surgical device company that patents the use of a device to perform a surgical method has no recourse under section 271(a). However, if a competitor device company attempted to sell the device with instructions on how to use it by practicing the patented method, section 271(b) should be available to the patentee. By

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[6] Note that a medical practitioner or health-related entity using a drug for a patented "use" would not be immunized from liability under any sub-section of 35 U.S.C. § 271.

enacting section 287(c), Congress underscored the important policy of allowing an action under section 271(b) when claims under section 271(a) are not available.

B. The "Knowledge" and "Intent" Requirements Properly Limit the Scope of Induced Infringement Even If Proving Liability Under Section 271(a) Is Not a Prerequisite.

The "knowledge" and "intent" requirements associated with proving infringement under section 271(b) should alleviate any concerns that might arise as a consequence of eliminating the inquiry into whether there is direct infringement liability associated with the inducer's actions. *Contra Akamai*, 692 F.3d at 1333 (Newman, J., dissenting).

In *Grokster*, this Court addressed induced infringement in the copyright context by referencing the patent law related to induced infringement. 545 U.S. at 935. Concerned about the impact on innovation of a new "inducement" rule in the copyright context, this Court stated that:

> mere knowledge of infringing potential or of actual infringing uses would not be enough here to subject the distributor to liability. . . . The inducement rule, instead, premises liability on purposeful, culpable expression and conduct, and thus does nothing to compromise legitimate commerce or discourage innovation having a lawful purpose.

Id. at 937.

The substantive standards as set out by this Court and by the Federal Circuit for an inducement claim require that the patentee establish that there has been direct infringement, and that the defendant knowingly induced such infringement and possessed specific intent to encourage that infringement. *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1312 (Fed. Cir. 2007). There is no argument that the acts that constitute direct infringement need not be present in fact or in the legal construct of Hatch-Waxman Litigation. Rather, the argument focuses on whether the patentee must prove that the entity or entities being induced are themselves liable for direct infringement.

This Court has stated that "inducement must involve the taking of affirmative steps to bring about the desired result." *Global-Tech.*, 131 S. Ct. at 2065. In *Global-Tech*, this Court addressed the issue of whether knowledge of the patent is needed for induced infringement. *Id.* The Court concluded that "induced infringement under 35 U.S.C. § 271(b) requires knowledge that the induced acts constitute patent infringement." *Id.* at 2068. The Court determined that "willful blindness" would also suffice to meet the knowledge requirement. *Id.* at 2069.

The "knowledge" requirement is important because it focuses on whether the inducer knows that acts he or she is inducing constitute acts of patent infringement. A potential inducer may be unaware whether and how multiple parties have contracted with each other to perform the steps of a particular method. For example, a generic drug

manufacturer may not know whether a one step or two step method claim of diagnosing and treating is carried out only by the attending physician, or by the nurse practitioner, or other qualified health care staff; and as a matter of law it should not matter. Merely understanding and knowing that one's active conduct results in one or more parties performing every element of a patent claim (or being willfully blind thereto) suggests intentional, culpable conduct and thus, should suffice.

The knowledge and specific intent requirements associated with section 271(b) make it clear that inducement requires evidence of culpable conduct directed to actively encouraging infringement by others in a way that benefits the inducer and harms the patentee. *See DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (en banc). That culpable conduct is present regardless of whether the direct infringement that is being induced results in liability to all, some, or none of the direct infringers. The harm to the patentee still occurs with a resultant benefit to the inducer.

Further, in the context of the Federal Circuit's *en banc* decision in *Akamai*, the court's holding in no way expands the rules governing direct infringement. The court simply did not address the applicable standard under section 271(a). Holding that an "inducer" can be liable for infringement without examining "liability" for direct infringement in no way suggests that all the direct infringers are innocent.

Judge Newman suggests in dissent that with the "new 'inducement only rule,' the inducing entity is liable on greatly enlarged grounds, such as merely advising or encouraging acts that may constitute

direct infringement." *Akamai*, 692 F.3d at 1319. However, if knowingly advising or encouraging actually causes performance of all claim steps, regardless of whether by one or more entities, and there is damage to the patentee with a resultant benefit to the inducer, liability under section 271(b) is perfectly reasonable.

The law from this Court and the Federal Circuit is well developed in the context of determining when the "knowledge" and "intent" elements are met and such law properly focuses the issue on whether the potential inducer has committed culpable conduct resulting in an injury to the patentee.[7] *See DSU*, 471 F.3d at 1306.

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[7] While not controlling, other jurisdictions have found liability for inducing infringement analogously to section 271(b). For example, Lord Justice Jacob and Etherton expressed the U.K. test for indirect infringement in paragraph 131 of a leading case as follows: "In short, the knowledge and intention requirements of Art. 26 and section 60(2) are satisfied if, at the time of supply or offer of supply, the supplier knows, or it is obvious in the circumstances, that ultimate users will intend to put the invention into effect. *Grimme Maschinenfabrik GmbH & Co KG v. Derek Scott* [2010] EWCA Civ 1110, [2011] 7 FSR 224. The declared purpose of the agreement on Trade-Related Intellectual Property Rights (TRIPS) is harmonization of patent laws, including infringement. *Rotec Indus., Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1253 (Fed. Cir. 2000).

C. The Federal Circuit's Decision Is Consistent with Common-law Tort Concepts that Focus on Punishing the Wrong-doer.

This Court has recognized that secondary liability (e.g., indirect infringement in the copyright context) is based on well-established principles of common law. *Grokster,* 545 U.S. at 930. In distinguishing the *Sony* case, the *Grokster* Court noted that "nothing in *Sony* requires courts to ignore evidence of intent if there is such evidence, and the case was never meant to foreclose rules of fault-based liability derived from the common law." *Id.* at 934-935; *see Sony Corp. v. Universal City Studios,* 464 U.S. 417 (1984). In addition, the Court reasoned,

> [t]he classic case of direct evidence of unlawful purpose occurs when one induces commission of infringement by another, or "entice[es] or persuad[es] another" to infringe, Black's Law Dictionary 790 (8th ed. 2004), as by advertising. Thus, at common law a copyright or patent defendant who "not only expected but invoked [infringing use] by advertisement" was liable for infringement "on principles recognized in every part of the law."

Grokster, 545 U.S. at 935 (alterations in original, citations omitted, emphasis added).

The common law of torts seeks to "place a value upon harms so that, theoretically, the plaintiff can be made whole again" and such an evaluation constitutes an assessment of the plaintiff's injury.

William L. Crowe, *The Anatomy of a Tort*, 44 LOY. L. REV. 671 (1999). In the context of method claims generally, one who actively induces others to do one or more acts and causes an injury to the patentee as a result of that inducement should be liable and required to make the patentee whole.

In *Grokster*, even though there were clearly direct infringers, the court adopted the theory of induced infringement (not previously part of copyright law) because of the magnitude of the harm inflicted through the use of defendants' software. 545 U.S. at 929. The Court also noted that "a further complement to the direct evidence of unlawful objective" was that defendants made money "by selling advertising space, by directing ads to the screens of computers employing their software. . . . [T]he more the software is used, the more ads are sent out and the greater the advertising revenue becomes." *Id.* at 939-40.

The Federal Circuit's opinion in this case properly focused on who was profiting at the expense of whom regardless of what liability rules might exist for any underlying direct infringement. A consideration of method of treatment claims similarly underscores the need to properly focus on the actions of the inducer and resultant harm to the patentee when examining rules of inducement liability. For example, in the context of a Hatch-Waxman Litigation, if a generic drug company is free to market its generic drug for a patented method of treatment, the innovator patentee stands to lose potentially millions of dollars overnight once the generic drug is launched. The generic company, on the other hand, by relying completely on the work of the innovator, stands to make a substantial profit.

Courts have maintained a flexible approach when fashioning different theories of liability to make sure that those who inflict harm are held responsible. *See, e.g., In re Methyl Tertiary Butyl Ether Prod. Liab. Litig.*, 379 F. Supp. 2d 348, 375 (S.D.N.Y. 2005) (expanding alternative liability rather than rigidly apply traditional tort principles to ensure responsible parties were punished). Further, when applying theories of liability, courts appear to err on the side of holding parties liable rather than letting everyone go free merely because liability might be difficult to assess. *Id.*

> [F]rom time to time courts have fashioned new approaches in order to permit plaintiffs to pursue a recovery when the facts and circumstances of their actions raised unforeseen barriers to relief. Those courts made a policy decision that in balancing the rights of all parties, it would be inappropriate to foreclose plaintiffs entirely from seeking relief merely because their actions did not fit the parameters of existing liability theories.

Id. at 377.

It is not generally difficult to apply the "knowledge" and "intent" requirements and determine whether an accused inducer is liable for infringement under section 271(b). The Federal Circuit's approach to induced infringement properly focuses the issue on the actions of the wrong-doer (e.g., the party inducing the infringing acts).

III. If Actionable Direct Infringement Must Be Found Under Section 271(a) Before Allowing a Claim for Induced Infringement Under Section 271(b), the Federal Circuit's "Single Entity" Rule Must Be Abandoned.

If the Court finds it necessary to address section 271(a) liability, it should apply a standard that encompasses actors that are collaborating or acting in concert. The statutory language of 35 U.S.C. § 271(a) does not support a restrictive "single-entity" rule. "Whoever," as used in section 271(a), is not limited to single entities and includes multiple actors. Such usage is consistent with contemporaneous dictionary definitions and the United States Code which specifically notes that the word "whoever" includes "corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals." 1 U.S.C. § 1. Further, it is unclear what else Congress could do to clarify the language except to say that "whoever" really means the plural (which 1 U.S.C. § 1 already says).

As noted above, the Federal Circuit did not address the standard of direct infringement for multiple actors under section 271(a) in its *en banc* decision. *Akamai*, 692 F.3d at 1307. In addition, even though the *en banc* court overruled the *BMC* decision, it did so only in the context of that court holding that in order for a party to be liable for induced infringement "some other single entity must be liable for direct infringement." *Id.* at 1306. Thus, the *en banc* court did not directly overrule any

precedent dealing with the standard for joint infringement under 35 U.S.C. § 271(a).

Thus, the lineage of cases starting with *BMC* make it clear that the Federal Circuit has adopted a high standard of "control or direction" by analogy to the law of agency. The Federal Circuit described the standard as follows:

> Although the control or direction standard is satisfied where the accused direct infringer is vicariously liable for the actions of a third party who completes performance of the claimed method, that does not describe the situation here. The terms of the MOU do not contain any express or implicit agreement that TSA will act on Travel Sentry's behalf or subject to its control, as an agency relationship would require. *See Dixon v. United States*, 465 U.S. 482, 505 (1984) ("[An] agency relationship [is] created when one person agrees with another 'that the other shall act on his behalf and subject to his control.'" (quoting Restatement (Second) of Agency § 1 (1957)).

Travel Sentry, Inc. v. Tropp, 497 Fed. App'x 958, 966 (Fed. Cir. 2012) (alterations in original). The court further clarified the standard in *Aristocrat Tech. Australia Pty Ltd. v. Int'l Game Tech.*, 709 F.3d 1348 (Fed. Cir. 2013):

> One party's direction or control over another in a principal-agent relationship or like contractual relationship operates as an exception to this general rule, but absent that

> agency relationship or joint enterprise, we have declined to find one party vicariously liable for another's actions. IGT has no such relationship with the player. Neither is the agent of the other, nor can we discern a theory under which one would be vicariously liable for the other's actions.

Id. at 1363 (citations omitted).

The Federal Circuit, in its *en banc* opinion, recognized that setting such a high standard under which multiple actors may be liable for joint infringement under section 271(a) may allow collaborative infringement to go unpunished:

> Absent an agency relationship between the actors or some equivalent, however, a party that does not commit all the acts necessary to constitute infringement has not been held liable for direct infringement *even if the parties have arranged to "divide" their acts of infringing conduct for the specific purpose of avoiding infringement liability.*

Akamai, 692 F.3d at 1307 (emphasis added). However, setting a standard of "control or direction" that condones subverting the patent laws to allow an infringer to strip an inventor of the benefits of a process or method patent claim by orchestrating claim steps to be conducted by others undermines an entire class of patents that is not limited to high tech computer systems. This simply cannot be the law.

Further, the analogy to the law of agency is misplaced and inconsistent with the common law origins of infringement liability in tort. The Federal

Circuit's application of a "single-entity" rule must be rejected, and the standard for finding multiple actors to be infringers under section 271(a) should be analogous to the standard for joint tortfeasors. Thus, joint actors acting in concert, pursuant to a common design or plan[8], or the "mastermind" who directs other independent actors (who may fall well short of acting as legal agents of the mastermind) should be liable for infringement under 271(a).

The "single-entity" rule evolved, in part, due to concerns about expanding the rules of liability such that so-called "innocent infringers" would be ensnared. *BMC*, 498 F.3d at 1381. In *BMC*, the court was concerned about a party trying to avoid infringement "simply by contracting out steps of a patented process to another entity." *Id.* In addition, the court recognized that this "control" requirement would still allow parties to enter into arms-length agreements to avoid infringement, but reasoned that this concern does not outweigh "concerns over expanding the rules governing direct infringement." *Id.*

The court, however, was too short sighted and failed to properly balance the concerns. The court's "single-entity" standard immunizes from joint infringement all other forms of cooperation, collaboration, and conspiracy available to would-be infringers. Further, if such a rule controls not only direct infringement under section 271(a), but also indirect infringement under section 271(b), then the rule does not provide the proper incentive to innovators such as pharmaceutical and diagnostic

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[8] 74 Am. Jur. 2d *Torts* § 68

companies to pursue medicines or diagnostics to address unmet medical needs. Surely this incentive should outweigh any hypothetical concerns invoked to argue for contraction of the rule governing direct infringement. The incentive to innovate should also prevail as it reflects the Constitutional mandate underlying the patent system.[9]

Further, as noted above, courts have been extremely creative in fashioning rules of liability to ensure consistency with one of the cardinal rules of tort law: "the 'badder' you are, the more likely you are to be held liable for more extensive harms and in greater amounts." Crowe, *supra* at 679. Over the past several decades, it does not appear that courts have had difficulty in analyzing joint infringement issues where multiple parties are practicing different steps of a method claim. There are a number of district court cases that applied a flexible approach in considering the issue of divided infringement prior to the Federal Circuit's establishment of the "single-entity" rule in the *BMC* case. *See, e.g., Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F. Supp. 207, 253 (D. Conn. 1973) (defendant liable for direct infringement under section 271(a) despite not performing every element of the asserted patent claims itself, because it knew that its customers would perform the remaining steps); *Shields v. Halliburton Co.*, 493 F. Supp. 1376, 1389 (W.D. La. 1980) (method claims were singularly and jointly infringed by defendants where one had instructed the other to perform an

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[9] "To promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8

infringing step); *Cordis Corp. v. Medtronic Ave, Inc.*, 194 F. Supp. 2d 323, 349 (D. Del. 2002) (stating that "if two or more entities perform different steps of the method, those entities must have some connection to each other"); *Hill v. Amazon.com, Inc.*, No. 02-CV-186, 2006 WL 151911, at *2 (E.D. Tex. Jan. 19, 2006) (stating that "a showing of 'agency' or 'working in concert' is not necessarily required" so long as there is some direction exchanged by the parties). The approach these courts have taken is sensible and furthers the policy goal of preventing actors from avoiding liability by instructing another to perform a final (or other) step of a patented method.

Dominant themes in recent Supreme Court intellectual property jurisprudence, are aversion to hard-and-fast rules and a demand for flexible legal doctrine. *See eBay Inc. v. MercExchange, LLC*, 547 U.S. 388 (2006); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010). Such an approach allows courts to adapt to technological development and changed circumstances. While method claims are not new, the multitude of divided infringement issues associated with such claims is a fairly recent phenomenon. *See* Hayden W. Gregory, *Proving Infringement in Divided Performance Process Claims: Something's Gotta Give*, 5 LANDSLIDE 1 (2012); Keith Jaasma, *Finding the Patent Infringement "Mastermind": The "Control or Direction" Standard for Joint Infringement*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 411, 429 (2010) (finding that "the rate at which district courts have decided issues related to 'joint' or 'divided' infringement has increased significantly" in recent years); Stacie L. Greskowiak, *Joint Infringement*

after BMC: The Demise of Process Patents, 41 LOY. U. CHI. L.J. 351, 402 (2010) (noting that the use "of multiple entities to carry out a process" is common in "the technology, communication, and medical industries"). Thus, if the Court deems it appropriate to address section 271(a) liability in the context of joint infringement, the Court should consider a flexible approach that weighs factors that bear on the extent to which the parties are acting at the direction of a single mastermind, cooperating, collaborating, or conspiring to perform the steps of the method, rather than apply a rigid "single-entity" rule.

CONCLUSION

Permitting the "gaming" of the patent system by a culpable infringer with an overly strict and rigid interpretation of sections 271(a) and/or 271(b) will be a disincentive to companies doing research and development in a number of technology areas. Clearly, a rigid interpretation would create this disincentive in the pharmaceutical industry where method of treatment claims provide critical protection for new uses of medicines to treat life-saving diseases. This Court, either by affirming the Federal Circuit's application of 271(b), or by finding infringement under 271(a) when multiple parties act in concert or at the direction of a mastermind to complete the steps of a patent claim, will promote the progress of research and development and prevent subversion of the patent system by culpable entities.

Respectfully submitted,

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AMICUS CURIAE BRIEF

RECORD AND BRIEFS

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IN THE

Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., ET AL.,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF GOOGLE, INC.; CISCO SYSTEMS, INC.; EBAY INC.; FACEBOOK, INC., MICRON TECHNOLOGY, INC.; NETFLIX, INC.; ORACLE CORPORATION; RED HAT, INC; SAP AMERICA INC; SAS INSTITUTE INC.; VIZIO, INC.; XILINX, INC.; YAHOO! INC. AS *AMICI CURIAE* IN SUPPORT OF PETITIONER

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INTERESTS OF *AMICI CURIAE*[1]

Amici Curiae are leading businesses and innovators in information technology and electronics industries. The goods and services they provide comprise numerous subsidiary components and operate in systems and networks with complex supply, distribution, and use chains. For example, some *amici* provide software products, such as operating systems, that comprise the platform to support communication between networks of hardware components like mobile phones, tablets, and personal computers. Other *amici* provide hardware products over which the majority of all IP-based network traffic travels.

As holders and licensees of numerous patents, *amici* are well aware of the import of effective patent protection. However, *amici* are also frequently the subject of threatened and actual patent litigation, at times including frivolous or abusive claims brought in hopes of coercing lucrative settlements. As participants on both sides of the caption in substantial patent litigation, *amici* are interested in ensuring that patent law is interpreted in a manner consistent with the letter and the intent of the law and in a manner that is fundamentally fair to both sides.

Amicus Google Inc. is a global technology leader whose mission is to organize the world's information and make it universally accessible and useful for individuals and business. Google's products, which

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[1] Counsel for the parties have consented to the filing of this brief; their consents have been filed with the Clerk of this Court. No counsel for either party had any role in authoring this brief, and no person other than the named *amici* and their counsel has made any monetary contribution to the preparation and submission of this brief. *See* Rule 37.6.

started with its Internet search engine, now encompass tools for helping people use mobile devices and applications; find and publish online content; advertise their businesses; share, save, and access content of all types from documents to video; find where they are or where they want to be using maps and other geographic services; and connect with others all over the world.

Amicus Cisco systems designs, manufactures, and sells Internet Protocol (IP) based networking and other products related to the communications and information technology (IT) industry and provides services associated with these products and their use. Cisco provides a broad line of products for transporting data, voice, and video within buildings, across campuses, and around the world. Cisco's products are designed to transform how people connect, communicate, and collaborate, and are utilized at enterprise businesses, public institutions, telecommunications companies and other service providers, commercial businesses, and personal residences.

Amicus eBay Inc. is a leader in global commerce, enabling commerce by delivering flexible and scalable solutions that foster growth, through 3 principal businesses: eBay, PayPal, and eBay Enterprises. eBay delivers one of the world's largest online marketplaces to customers via any connected device, connecting people with the things they need and love. PayPal offers flexible and innovative payment solutions for consumers and merchants of all sizes. eBay Enterprise helps companies of all sizes drive commerce growth-delivering exceptional, engaging shopping experiences online and offline.

Amicus Facebook provides a free Internet-based service to give people the power to share and make the

world more open and connected. Facebook provides its services in over 100 languages and dialects to over 1.2 billion people worldwide. People use Facebook to stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them.

Amicus Micron Technology, Inc. is a leading, global, semiconductor company that designs, manufactures, and sells advanced, high performance, memory solutions. Backed by more than 35 years of technology leadership, Micron's memory solutions enable the world's most innovative computing, consumer, enterprise storage, networking, mobile, embedded and automotive applications. Micron contributes billions of dollars in annual sales to the U.S. and world economy, annually invests hundreds of millions of dollars in research and development, and employs thirty thousand people both in the United States and overseas. Micron is a firm believer in a balanced patent system and holds over sixteen thousand United States patents.

Amicus Netflix, Inc. is the world's leading Internet television network with over 44 million members in 41 countries enjoying more than one billion hours of TV shows and movies per month, including original series. Netflix members can watch as much as they want, anytime, anywhere, on nearly any Internet-connected screen. Members can play, pause and resume watching, all without commercials or commitments.

Amicus Red Hat, Inc. is the world's leading provider of open source software and related services to enterprise customers. Its supply chain involves dozens of open source projects, which work independently of each other and collaborate over the internet. Its

software products are used by Wall Street investment firms, hundreds of Fortune 500 companies, and the United States government. Headquartered in Raleigh, North Carolina, Red Hat has offices in 33 countries.

Amicus SAP America Inc., is a leading technology company focused on developing innovative software and computer-based business solutions. It conducts significant research and development and invests heavily in commercializing innovative technologies.

Amicus SAS Institute Inc. is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. SAS solves real-world problems like combatting fraud in financial services, expediting drugs to market in life sciences, and identifying cross-sell opportunities in retail. Through innovative solutions, SAS helps customers at more than 70,000 sites improve performance and deliver value by making better decisions faster.

Amicus VIZIO, Inc. is a leading U.S. consumer electronics company whose mission is to deliver the latest technologies at the best value for consumers. VIZIO offers a broad range of award-winning consumer electronics including televisions, PCs and audio products. By utilizing an efficient manufacturing supply chain to produce high performance products and passing on those savings to the consumer, VIZIO has developed a loyal following and industry-wide praise along the way. Headquartered in Irvine, California, VIZIO has remained committed for over a decade to what it does best – focusing on the consumer experience to deliver innovative products that are also beautifully simple and easy to use.

Amicus Xilinx, Inc. is the world's leading provider of programmable platforms. Xilinx products are complex integrated circuits with sophisticated design software to support those circuits, that incorporate hundreds of patented technologies. Xilinx devices are highly flexible systems to be configured by its customers, enabling Xilinx to serve a wide range of end markets, including wired and wireless communications, aerospace and defense, automotive, and consumer products.

Amicus Yahoo! Inc. ("Yahoo") is a global technology company with over 12,000 employees focused on making the world's daily habits inspiring and entertaining. It provides a variety of products and services, many of them personalized, including search, content, and communications tools on the Web and on mobile devices. Between 2010 and 2012 alone, Yahoo spent more than $2.8 billion developing new technology. As the result of investing so heavily in research and innovation, Yahoo owns a valuable patent portfolio; it licenses a great many patented technologies as well.

Amici believe that, unless reversed by this Court, the Federal Circuit's ruling that induced infringement may exist in the absence of any direct infringement under § 271(a) will improperly broaden the scope, burden and cost of patent litigation, to the detriment of companies in high technology industries such as *Amici*.

SUMMARY OF ARGUMENT

The Federal Circuit's decision in *Akamai Technologies Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012) (en banc), departs from the Patent Act's plain language and decades of this Court's precedent and warrants this Court's reversal. This Court has long held that liability for indirect infringement must be based on at least one instance of direct infringement as defined by 35 U.S.C. § 271(a). The decision below, in contrast, holds that there no longer is a requirement of a finding of § 271(a) infringement as a predicate for inducement liability.

Amici agree with Petitioner that the decision conflicts with statute and precedent, permitting inducement liability unmoored from the requirements of § 271(a) and inconsistent with the well-established rules of patent law that have informed and governed the marketplace for the last half century. Furthermore, the Federal Circuit's elimination of the "all-elements" or "single-entity" rule[2] for induced infringement will exacerbate the growing problem of high-cost and abusive patent litigation. Whereas before, both direct and indirect infringement accusations could be assessed based on the uniform single-entity rule, the decision below means that accusations of induced infringement now implicate consideration and investigation of every link along the supply, distribution, and use chains—even where patent

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[2] *Amici* note, as discussed further herein, that the "single-entity rule" may impose liability on one entity for the actions of another entity but only in circumstances where the actions of the second entity are legally attributable to the first entity, for example if the second entity is an agent of the first entity. As used herein, "single-entity rule" includes these traditional control situations.

defendants lack knowledge or control of the activities of their customers, distributors end users, or suppliers.

The effects of the new rule will be especially deleterious for providers of goods and services that operate in complex associations and relationships with other goods and services, including manufacturers of software, hard-ware and network technologies. The new rule opens the door to unpredictable potential theories of divided infringement liability based on the actions of an unlimited number of participants in the complex networks that characterize current information technology markets, untethered from any actual act of direct infringement. Moreover, the potential problems sought to be addressed by the new rule are overstated and could be resolved by proper claim drafting.

Accordingly, *Amici* respectfully request that the Court reverse the Federal Circuit's *Akamai* decision, with its expansive potential for new divided infringement liability, and return patent law to its familiar *status quo ante*, in which a finding of inducement under § 271(b) requires some direct infringement by a single entity under § 271(a).

ARGUMENT

I. The Federal Circuit Decision Conflicts With The Patent Statute And Prior Decisions of This Court

In the decision below, a divided Federal Circuit eliminated the longstanding rule that liability for induced patent infringement requires a predicate act of direct infringement as defined by 35 U.S.C. § 271(a). *See Akamai*, 692 F.3d at 1306, 1308. As one of the dissenting opinions correctly observes, this ruling

ignores the limitations imposed by the definition of "infringement" in 35 U.S.C. § 271(a), as well as in this Court's precedents. *See* 692 F.3d at 1342-44 (Linn, J., dissenting).

A. The Federal Circuit Decision Conflicts With The Patent Act

As both dissenting opinions below point out, the majority's determination improperly ascribes to the term "infringement" different meanings depending on its context. This not only conflicts with the plain language of Section 271(a) giving a single definition to "infringement," but also violates basic canons of statutory construction requiring that like terms be interpreted alike. *See* 692 F.3d at 1337 (Linn, J., dissenting) ("[T]he majority effectively rewrites [the Act], telling us that the term 'infringement' was not as previously thought defined by Congress in Section 271(a), but instead can mean different things in different contexts."); *see also id.* at 1328 (Newman, J., dissenting) ("I need not belabor the quandary of how there can be direct infringement but no direct infringers."). Under the Federal Circuit's interpretation of the statute, there will be cases of indirect infringement without a direct infringer.

The Federal Circuit's interpretation not only conflicts with the plain language of the statute, but also broadens inducement liability beyond the intent of Congress. Though *Akamai* acknowledges that § 271(b) was intended to codify common law applications of indirect liability for patent infringement, it ignores the canonical principle that indirect liability must be predicated on a legally cognizable underlying offense. *See, e.g.*, *Shuttlesworth v. City of Birmingham*, 373 U.S. 262, 265-66 (1963). The majority's ruling assumes that inducement liability under § 271(b) may

encompass a broader swath of conduct than that captured by § 271(a), but "there is no known rule that says the elements of a tort are different when considered as a predicate" for indirect liability as compared to elements for proving direct liability. *Id.*

B. The Decision Conflicts With This Court's Precedents

In *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961) ("*Aro I*"), this Court articulated the requirement that indirect infringement liability be predicated on an act that violates 35 U.S.C. § 271(a) and thus constitutes direct infringement. *See id.* at 341 ("[M]anufacture and sale with that knowledge might well constitute contributory infringement under § 271(c) if, but only if, such a replacement by the purchaser himself would in itself constitute a direct infringement under § 271(a)."). Since then, this Court has repeated and applied this rule. *See, e.g.*, *Global-Tech Appliances Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 483 (1964) ("*Aro II*").

Moreover, this Court has held that the "special force" of *stare decisis* must apply to the rule articulated in *Aro I* in view of its half century of existence and acceptance as the defining case on indirect infringement. *Global-Tech*, 131 S. Ct. at 2068. As this Court recognized, the rule requiring that one actor be legally responsible for all steps of the patented process as a predicate to both direct and indirect liability has survived nearly 50 years unscathed by judicial or legislative review, including by the America Invents Act, and has become a bedrock tenet of patent law upon which inventors and businesses alike rely. *See*

id.; *see also Festo Corp v. Soketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 724 (2002). This Court has repeatedly cautioned against the Federal Circuit's adoption of "changes that disrupt the settled expectations of the inventing community." *Id.* at 724, 738-39 (citing *Warner-Jenkinson Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28 (1997)). Such "fundamental alteration" of well-settled principles of intellectual property law is the exclusive responsibility of Congress. *Id.* To find otherwise "risks destroying the legitimate expectations" of inventors and other participants in the technology market. *Id.* This Court should therefore correct the Federal Circuit's departure from precedent and reinstate the familiar rule that a finding of inducement under § 271(b) requires some direct infringement by a single entity under § 271(a).

II. The *Akamai* Rule Places Large and Unwarranted New Burdens on Participants In Information Technology Markets

By crafting a new rule that dramatically expands the scope of potential induced infringement liability, the Federal Circuit has also imposed new costs and burdens on producers of complex products and services, especially in information technology markets. Under the previous rule, courts faced with divided infringement theories "generally refused to find liability where one party did not control or direct each step of the patented process." *BMC Resources Inc. v. Paymentech LP*, 498 F.3d 1373, 1380 (Fed. Cir. 2007). This was the rule regardless of whether indirect or direct infringement was asserted.

Under *Akamai,* however, inducement liability may be predicated on the acts of multiple parties, each of

whom performs one or more steps of the process. *Akamai*, 692 F.3d at 1308. Under this new rule, "the fact that no single entity performs all of the steps of a patented method does not resolve the issue of indirect infringement." *Voter Verified Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1384 n.5 (Fed. Cir. 2012). As a result, allegations of inducement liability are more likely to be brought and survive summary judgment, and the costs of litigating inducement liability will potentially skyrocket, as patent defendants now must take into account geographically and temporally disparate actors and actions.

These detrimental effects of the new rule will be especially great for participants in today's information technology environment. High technology companies like *Amici* provide products and services that can be used in an almost infinite combination of ways by other companies and consumers. While the market's evolution toward specialized, complementary provision of components by numerous, separate suppliers has resulted in substantial gains for consumers (*e.g.*, smartphones developed by one company that provide access over another company's networks to telephony, Internet browsing, geographic services, and access to hundreds of thousands of applications developed by yet more and different companies), it makes technology companies particularly vulnerable to divided infringement claims. *See, e.g.*, eMarketer.com, *App Downloads Will Double In Next Four Years* (Feb. 3, 2014), *available at* www.emarketer.com (finding that Google Play and the Apple App Store, two leading smartphone application stores, both recently surpassed one million applications available for user download). As discussed further below, the *Akamai* rule places large and

unwarranted burdens on participants in these information technology markets, such as *Amici*.

A. The *Akamai* Rule Invites Expansive Liability In Information Technology Markets

Today's information technology environment is a diverse lattice densely populated by suppliers of complementary goods and services, ranging from hardware and software companies to mobile phone carriers and independent application developers. *Amici* build their products and services for maximum flexibility, to be compatible with many combinations of other products and services, which greatly enhances utility and facilitates a robust compatible goods market. Suppliers like *Amici* thus might know of, and even cooperate with, other companies that supply products and services that are indispensable or complementary to, or interoperable with, the supplier's products and services without being fully aware of, much less maintaining control over, all of the other companies' products and services.

Smartphones provide an illustrative example. E-commerce and delivery of content-on-demand to consumers' mobile phones—two types of transactions that have become a staple of the smartphone generation—by their nature require the technical collaboration of multiple supplier actors. The original equipment manufacturer ("OEM") provides the hardware (the mobile phone or tablet); the carrier provides the data connection and network link; network equipment venders provide the hardware and software that support the carrier networks, and multiple software companies provide the platform and the specific software applications enjoyed by the consumer. Each of the suppliers provides a piece of

the process without controlling the whole. Yet, under the Federal Circuit's *Akamai* rule, any (or all) of the participants may be accused of and potentially held liable for indirect infringement based on their creation of a product or provision of a service that satisfies only a limited number of claim steps if they are also found to facilitate or enable the practice of other claim steps. *See Akamai*, 692 F.3d at 1317-18 ("induced infringement liability can be found even if there is no single party who would be liable for direct infringement").[3] The very large number of requisite participants in ecommerce and mobile applications increases the complexity of the patent scheme and exposure of business far beyond what was anticipated by the statute or precedent.

Given these features of today's information technology markets, the Federal Circuit's new rule allowing divided infringement claims will increase the cost and complexity of investigating allegations of patent infringement. The new rule imposes on companies like *Amici* the costly and often impossible

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[3] As discussed further in Section II.C *infra*, the *Akamai* rule permitting divided infringement liability is antithetical to long-standing precedent that inducement requires that the defendant "possessed specific intent to encourage another's infringement." *DSU Medical Corp. v. JMS Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006) ("'The plaintiff has the burden of showing that the alleged infringer's actions induced infringing acts *and* that he knew or should have known his actions would induce actual infringements.'") (quoting *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 553 (Fed. Cir. 1990) (emphasis added); *see also* Section II.C *infra*. While some courts have (improperly) applied a more lax scienter standard to inducement claims, the salient point of law remains undisputed: a defendant cannot have the requisite knowledge of a direct infringement if no direct infringer exists.

burden of considering numerous (and frequently innumerable) potential configurations and combinations of hardware and software to attempt to determine whether any permutation permitted or facilitated by their platforms could be interpreted to perform all the steps of any asserted claim.

For example, several *Amici* who provide software for mobile applications have been accused under the *Akamai* rule of induced infringement of claims that contain elements that may be practiced by the hardware components, software, and end user (none of which are commonly controlled). *See, e.g.*, *Civix-DDI LLC v. Hotels.com LP*, 904 F. Supp. 2d 864 (N.D. Ill. 2012) (finding that the claim steps may be done by Hotels.com (defendant) with one or more of third parties Expedia, DoubleClick, and/or iFrame).

Amici who provide hardware components that may be used in a network face a similar conundrum. The networks by their nature include multiple disaggregated users and terminal devices. The users connect to and configure the network in a variety of ways, many of which are not known to *Amici*. Cloud computing enhances this flexibility as well as the independence of the user. *Amici* build their hardware so that it can be used in a highly adaptable fashion and used in a large number of configurations. Under the *Akamai* rule, that very configurability, which benefits consumers by allowing them to use multiple types of devices and applications over the Internet and other networks, now subjects *Amici* to unknowable and almost unlimited potential liability for those uses.

B. The *Akamai* Rule Exacerbates The Exorbitant Cost And Potential For Abuse In Patent Litigation

Patent infringement claims (whether ultimately litigated or not) force companies to divert valuable resources away from research and development towards investigating and defending infringement claims. The induced infringement litigation newly encouraged by *Akamai* will exacerbate this problem. Every dollar spent defending against patent suits is a dollar that could be used to research new products, improve existing products, or simply bring products and services to customers more efficiently and at cheaper prices. The expansion of liability engendered by *Akamai* has and will continue to lead to an escalation of such litigation costs, undermining the fairness and efficacy of the patent system.

In 2011, Chief Judge Randall Rader warned that increasing costs of patent litigation threatened to become "an unwieldy, unpredictable, and unaffordable burden on innovation." Randall R. Rader, U.S. Court of Appeals for the Federal Circuit, The State of Patent Litigation, E.D. Texas Judicial Conference at 20 (Sept. 27, 2011), *available at* www.patentlyo.com/files/raderstateofpatentlit.pdf. Judge Rader's remarks were based on statistics that show a steady and continuous increase in both volume and costs of patent litigation over the last decade, a trend that has continued to the present day. *See, e.g.*, PricewaterhouseCoopers LLP, *2013 Patent Litigation Study: Big cases make headlines, while patent cases proliferate* (2013) (reporting a 29% increase in the number of patent cases from 2011 to 2012). A recent study by the American Intellectual Property Law Association shows that it now costs an average of $3-5

million for cases seeking less than $25 million, with the defense costs escalating rapidly as the damages claims increase. *See* AIPLA Report of the Economic Survey (2013) at I-145. This cost estimate does not take into account the substantial monetary burden shouldered by courts and taxpayers in complex, frequently lengthy patent cases.

It is widely understood that "the driving factor for that expense is discovery excesses," Rader, *supra*, at 7, a problem that will only intensify under the new rule, which puts the actions of potentially numerous third parties at issue. Far-reaching discovery into the geographically, temporally, and functionally disparate operations of unrelated suppliers of complementary goods and services will provoke settlements driven by cost rather than the merits of the parties' claims.

The manner in which *Akamai* expands liability also exacerbates the problem of abusive patent lawsuits. Armed with an expansive rule that can impose liability on a company for supplying otherwise non-infringing products and services, opportunistic plaintiffs are likely to pursue even more companies to seek extortionate settlements largely divorced from consideration of the merits of the claims.

The complexity of the new rule also injects additional uncertainty for both parties, impeding efficient settlement even of otherwise meritorious claims. Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. Rev. 509, 514-15 (2003). (discussing the costs imposed on both parties by the complexity of the rules and procedures governing patent litigation); *see also* Mark Lemley, et al., *Divided Infringement Claims*, 33

Am. I.P. Ass'n Q. J. 255, 280 (2005).[4] The risk of litigation, particularly uncertain litigation, distorts business decisions, deters research and development activities, and undermines market efficiency for both small and large companies. Rader, *supra*, at 8 (characterizing abusive litigation "as an unhealthy tax on innovation and open competition").

The consequences of litigation uncertainty, frivolous claims, and tactical abuse undermine the constitutional purpose of the patent system to "promote the Progress of Science and the Useful Arts." U.S. Const. Art. I, § 8, cl. 8. This Court has recognized as the ultimate goal of patent law to encourage innovation and bring new, useful technologies into public use. *See, e.g.*, *Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd.*, 545 U.S. 913, 919, 933 (2005); *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 262 (1979). Permitting divided infringement theories to form the basis of indirect liability does not encourage or promote the balanced and sustainable patent system envisioned by the Constitution. Instead, it will tend to discourage legitimate commerce and productive enterprise, stifle innovation, and undermine cooperation among suppliers of technological components who will be leery of being held liable for the independent acts of others who provide complementary goods and services. *Grokster*, 545 U.S. at 919; *see also* Rader, *supra* at 20.

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[4] Such uncertainty has a detrimental effect on plaintiffs as well, as they cannot know until claim construction whether a court will agree that their claims may encompass the actions of multiple parties or instead find that the claims are unitary.

C. Limiting Divided Infringement Liability to Indirect Claims Does Not Resolve The Inefficiency And Unfairness of the *Akamai* Rule

The Federal Circuit, recognizing that eliminating the single-entity rule might dramatically increase inducement liability, suggested that defendants are protected from excessive liability based on the preservation of the single-entity rule for direct infringement and by the intent element of § 271(b). *See Akamai*, 692 F.3d at 1308-09. As a practical matter, however, preserving the single-entity rule for direct infringement does not ameliorate *Akamai*'s harmful impact. Instead, it merely invites inducement liability claims to be used instead of direct liability claims to reach those who practice some, but not all, of the steps of a patented method.

Nor does the *scienter* requirement for indirect infringement suffice to protect defendants. As it has been applied in many cases, *scienter* requires that the defendant have knowledge of the patent and knowledge that the induced activity would constitute patent infringement, *Global-Tech*, 131 S. Ct. at 2070, but not that the defendant have specific knowledge of any actual acts of direct infringement, *In re Bill of Lading Transmission and Processing Sys. Patent Litig.*, 681 F.3d 1323, 1336 (Fed. Cir. 2012); *see also I4i Ltd. Partnership v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010). According to this line of cases, no particular direct infringer need be identified, much less known to the defendant, to impose inducement liability. *In re Bill of Lading*, 681 F.3d at 1336 ("[T]his court has upheld claims of indirect infringement premised on circumstantial evidence of direct infringement by unknown parties.") (quoting *Lucent*

Techs. Inc. v. Gateway Inc., 580 F.3d 1301, 1318 (Fed. Cir. 2009)). Indeed, several recent district court decisions have allowed plaintiffs to use the filing of a complaint to bootstrap allegations of post-filing inducement liability. *See, e.g., SoftView LLC v. Apple Inc.*, No. 10-389, 2012 WL 3061027, *7 (D. Del. July 26, 2012) ("the Court agrees with SoftView's position that the filing of a complaint is sufficient to provide knowledge of the patents-in-suit for purposes of stating a claim for indirect infringement occurring after the filing date."); *Zond, Inc. v. SK Hynix Inc.*, No. 13-11591, 2014 WL 346008, *3 (D. Mass. Jan. 31, 2014) (same).[5]

The broad scope of potential inducement liability under the combined rulings in *Akamai* and *In re Bill of Lading* becomes particularly clear when one considers the extensive list of actions the Federal Circuit identified as potentially "inducing" behavior, including "causing, urging, encouraging, and aiding others to engage in infringing conduct." 692 F.3d at 1307. Under these cases, accused indirect infringers may be found in many scenarios to have constructive knowledge regarding potentially infringing configurations or uses for their technology, without exercising any control or having any actual knowledge regarding whether (or how) other companies configure their

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[5] *Amici* believe that this broad application of indirect liability, which would impose liability even if a defendant has no knowledge of any actually infringing acts (or there is, in fact, no actual direct infringer) is inconsistent with the standards for inducement and contributory infringement established by prior Supreme Court and Federal Circuit precedent. *See, e.g., Grokster*, 545 U.S. at 934-35; *DSU Medical*, 471 F.3d at 1305-06 (active inducement requires specific intent to cause another's direct infringement, not merely the acts alleged to constitute infringement).

system or perform the claimed steps. Inducement liability could be predicated on nearly infinite permutations of potential configurations by a wide variety of actors, substantially mitigating the effectiveness of inducement liability's intent requirement.

Several post-*Akamai* cases demonstrate the potential for broad inducement liability that can result from the *Akamai* rule, and the inability of the intent requirement as it is applied to effectively cabin this liability. For example, in *Prism Tech., LLC v. McAfee Inc.*, No. 8:10-cv-220, 2012 WL 5385210 (D. Neb. Nov. 1, 2012), the court found that plaintiff had raised a plausible inducement claim under *Akamai* based solely on the allegation that defendant knew about the patent-in-suit through a prior complaint and provided standard customer support through its website. *Id.* at *4-5. In *Dreissen v. Sony Music Ent't*, 904 F. Supp. 2d 1196, 1204 (D. Utah 2012), the court found the requisite "intent to induce" based on defendant's mere press release about the launch of an accused functionality. And in *Cassidian Comm'ns, Inc. v. microDATA GIS, Inc.*, No. 2:12-cv-162, 2013 WL 6491477 (E.D. Tex. Dec. 10, 2013), the court found that plaintiff's inducement claim could proceed to trial based on the fact that defendant provided "troubleshooting and resolution assistance" to the third-party telephone service providers who actually practiced the critical claim step of presenting emergency 911 calls. *Id.* at *6. The court reached this conclusion even though it was undisputed that the third-party service providers had presented emergency 911 calls long before defendant even existed. *Id.*

D. The *Akamai* Rule Is Unnecessary Because Proper Claim Drafting Can Prevent Any Abusive Infringement Involving Multiple Actors

In *Akamai*, the majority expressed concern about leaving inventors without recourse for infringement of their patents simply because certain steps of the claimed process are outsourced to different parties. But the Federal Circuit's rule is a solution in search of a problem. *First*, there is no evidence that high-technology companies alter their practices so that different entities practice different steps of a patent claim in order to avoid infringement liability. *Second*, were such intentional evasion to occur, the traditional "vicarious liability test also reaches joint enterprises acting together to infringe a patent." *Akamai*, 692 F.3d at 1349 (Linn, J., dissenting).

Assertion of a divided infringement theory is most likely to occur in instances where the plaintiff seeks to expand the scope of its claims beyond the original intent of the drafter. Since patentees have long been on notice of the need to draft claims to cover the activities of a single entity, the likelihood of unintentional, but nonetheless legitimate, divided claims is relatively small. Rather, it is likely that the patentee intended that each step be performed by a single entity—and did not intend a construction whereby the steps are performed disparately, by multiple actors. There is thus no support for the Federal Circuit's attempts to stretch claims to cover conduct that was neither described nor contemplated at the time of claim drafting.

Moreover, any such problems are more appropriately remedied by proper claim drafting. The *Akamai* case itself is instructive. In the district court, Akamai

asserted three patents, which shared the same specification, all directed at a "system for allowing a content provider to outsource the storage and delivery of discrete portions of its website content." *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 629 F.3d 1311, 1315 (Fed. Cir. 2010) *op. vacated by Akamai Technologies, Inc. v. MIT*, 419 Fed. Appx. 989 (Fed Cir. 2011). "All three patents include method claims directed to a content delivery service that delivers the base document of a website from a content provider's computer while individual embedded objects of the website are stored on an object-by-object basis on a Content Delivery Network ("CDN")." *Id.*[6] Though all of the patents cover various aspects of the same process, only the '703 patent, which is at issue in this appeal, implicates the joint infringement issue. *Id.* at 1322 (citing Oral Arg. 10:35-11:10) (further noting that Akamai stipulated to a finding of noninfringement of the other two patents that included only unitary claims). In other words, by Akamai's own admission, it was able to effectively capture its invention in unitary claims, which not only proves that resolution of the perceived problem by proper claim drafting is possible, but also that the interpretation of the '703 patent as encompassing distributed claims likely diverges from the original intent of the patentee.

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[6] To allow users accessing a content provider's web page to receive embedded objects from the CDN, the URL of the embedded object must be modified to point to the CDN hosting the object rather than the content provider's domain. *Id.* The patented process is described in the specification, and no indication is given that the inventors contemplated a process in which a content provider would have the option of choosing the embedded objects and then independently modifying the corresponding URLs to direct traffic to objects stored on the CDN.

Since the limitations on joint infringement have been well-established for at least half a century, patent prosecutors are well aware of the necessity of drafting appropriate claims. *See, e.g.*, Larry S. Nixon, *Preparing and Prosecuting a Patent to Win in Litigation*, 423 PLI/Pat 39, 53-54 (1995). For example, "[m]ost inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity and whether it supplies or receives any given element." Lemley, *supra*, at 272. If the actions of multiple entities are intended to be covered, separate claims can be drafted to cover each. *Id.* Such drafting avoids the necessity of relying on divided infringement to establish liability and has the additional benefit of identifying the intended invention in a manner that most clearly puts potential infringers on notice of the activities that constitute infringement. *Id.*

By comparison, the new rule will give an undeserved windfall to patent practitioners who willfully or negligently drafted inappropriate claims that cannot be directly infringed by a single actor. *See* Nathaniel Grow, *Joint Patent Infringement Following* Akamai, Am. Business L. J. 51:114 (2014) (noting that "a number of the most poorly-drafted method patents—i.e., those either implicitly or explicitly requiring the activities of two or more parties to be infringed—will now be enforceable under the new standard for inducement.") The new rule will also lead to *post hoc* speculation by courts and patent owners (many of whom are not the original inventors) regarding whether the claim is properly construed to encompass the acts of multiple actors or conversely was always intended to be done by one actor. Lemley, *supra* at 280; *see also Faroudja Labs v. Dwin Elecs. Inc.*, No. 97-20010 SW, 1999 WL 111788 (N.D. Cal. Feb. 24, 1999)

(declining to impose liability based on plaintiff's divided infringement theory because the plaintiff, as the drafter of the claims, could have included only those steps performed by the defendant). This is a particularly perverse result considering that the majority of the claims to be construed in the near future are likely to have been drafted under the old regime, where divided infringement claims were prohibited. Thus, for a court to conclude that a claim drafted before *Akamai* implicates the activities of multiple actors, it either has to find that the patentee intentionally drafted a claim that was then-unenforceable or find that the construction supports divided infringement despite the contrary intent of the drafter.

Moreover, with the incentive of plaintiffs to pull multiple parties into litigation, and the power to draft claims to add prior art steps to a method, multi-actor patent claims could be a goal, rather than the drafting error to be avoided that it is now.

Ultimately, the cost of poorly drawn claims is best borne by patent drafters rather than by future litigants and courts that have to grapple with the claim construction issues and ambiguity inherent in such claims. *See Sage Prods Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) ("Given a choice of imposing the higher costs of careful prosecution on patentees, or imposing the costs of foreclosed business activity on the public at large, this court believes the costs are properly imposed on . . . the patentees."). It has long been recognized that litigation is an inappropriate forum for the redrafting of claims, "whether to make them operable or to sustain their validity." *Chef-Am. Inc. v. Lamb-Weston Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004) (collecting cases).

Permitting the *Akamai* rule to stand undermines the public notice function of patents and the longstanding policy against relying on judicial intervention to resurrect improperly-drafted claims. *Id.*; *see also Sontag Chain Stores Co. v. Nat'l Nut Co.*, 310 U.S. 281, 293, 60 S. Ct. 961 (1940) ("[T]he patentee might have included in the application for the original patent, claims broad enough to embrace petitioner's accused machine, but did not. This 'gave the public to understand' that whatever was not claimed 'did not come within his patent' and might rightfully be made by anyone.").

E. The *Akamai* Rule Invites Improper Liability for Practicing The Prior Art.

Finally, *Akamai*, by permitting divided infringement claims, provides patentees with new opportunities to add steps, including known prior art steps, in order to avoid validity challenges and artificially expand the scope of their claims beyond the inventive elements.

For example, a software claim may apply known data processing steps to a particular hardware configuration. The software company, whose software process is not infringing, may nonetheless be liable for induced infringement merely because it makes its software compatible with a particular hardware configuration that is adopted by a user—even though the same software company could not be held liable for direct infringement because all the steps it performs are within the prior art.

The absence of any temporal limitation on the *Akamai* rule makes the inequity of the rule particularly stark. Under *Akamai*, a company can be liable for indirect infringement even though it does nothing more than contribute a known, legacy part to

an accused system or network. For example, assume Company A has been making and selling a router for many years before the patentee (much less the claimed invention) even existed. However, after the patentee received its patent, which includes divided claims, a new company, Company B, introduces a new wireless device. Company A provides support to its customers who purchased the legacy router years ago, but now want to use it with Company B's wireless device. Company A may even provide instructions for how to set up its router to be used with the wireless device. Even though it is undisputed that neither Company B's wireless device nor Company A's prior art router infringes the patent on its own, Company A can be accused and potentially held liable under the *Akamai* rule for selling its prior art router merely because the patent includes multi-actor claims that cover the combination of the router and a device sold by an entirely unrelated entity. Such results are antithetical to patent law's purpose of protecting only novel, useful inventions.

CONCLUSION

For the foregoing reasons, this Court should reverse the decision below.

Respectfully submitted,

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AMICUS CURIAE BRIEF

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Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,

Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., ET AL.,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF *AMICUS CURIAE* INTELLECTUAL PROPERTY OWNERS ASSOCIATION IN SUPPORT OF NEITHER PARTY

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INTEREST OF *AMICUS CURIAE*[1]

Intellectual Property Owners Association (IPO) is a non-profit, national trade association representing companies and individuals in all industries and fields of technology who own or are interested in U.S. intellectual property rights. IPO's membership includes more than 200 companies and a total of over 12,000 individuals who are involved in the association, either through their companies or as inventor, author, executive, law firm, or attorney members. Founded in 1972, IPO represents the rights and interests of all owners of intellectual property, including patents. IPO regularly represents the interests of its members before Congress and the U.S. Patent & Trademark Office, and has filed numerous *amicus* briefs in this Court and other courts on significant issues facing intellectual property law. The association adheres to a policy of submitting *amicus* briefs on issues affecting intellectual property ownership, including the ability of owners to enforce their rights and obtain redress for infringement. The members of IPO's Board of

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[1] Pursuant to this Court's Rule 37.3(a), petitioner has provided written consent, on file with the clerk, to the filing of briefs in support of either or neither party. Respondent has provided written consent for the filing of this brief, submitted herewith. Pursuant to this Court's Rule 37.6, *amicus* states that this brief was not authored in whole or in part by counsel for any party, and that no person or entity other than *amicus* or its counsel made a monetary contribution intended to fund the preparation or submission of this brief.

Directors, which approved the filing of this brief, are listed in the Appendix.[2]

IPO submits this brief because its members share a significant interest in the correct and consistent formulation and implementation of the legal standards governing patent infringement. More specifically, IPO requests that this Court confirm that induced infringement under 35 U.S.C. § 271(b) requires, as a prerequisite, proof of direct infringement under § 271(a), even in the case of process patents. The Federal Circuit's relaxation of this long standing requirement in situations where the patent owner must combine the actions of two or more actors to establish that all of the steps of a method claim were in fact performed thrusts the law into a state of confusion. Prior to the Federal Circuit's *en banc* ruling in *Akamai Techs., Inc. v. Limelight Networks, Inc.* ("*Akamai II*"), 692 F.3d 1301 (Fed. Cir. 2012) (*en banc*), these issues were often framed in terms of "joint" or "divided" direct infringement. By abolishing the requirement of proving that a single entity is legally liable for performing all the steps of a claim, however, the Federal Circuit has reframed the issue as one of "induced infringement" under § 271(b). It is evident from the three widely disparate opinions in *Akamai II* that the law surrounding this factual scenario requires clarification.

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[2] IPO procedures require approval of positions in briefs by a two-thirds majority of directors present and voting.

SUMMARY OF ARGUMENT

IPO believes that this Court should reaffirm what it said in *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961): "if there is no direct infringement of a patent there can be no [indirect] infringement." That principle is fundamental and should apply to both apparatus and method claims. Further, the Court should make clear that direct infringement of a method claim under § 271(a) requires conduct that is the sole responsibility of a single actor, either because the single actor performed all of the steps of the method claim itself, or because the steps were performed at the direction or under the control of the single actor. *See BMC Res., Inc. v. Paymentech, L.P.* ("*BMC*"), 498 F.3d 1373 (Fed. Cir. 2007). Abolishing the single entity liability rule and the need for proof of direct infringement, as the Federal Circuit has done, could open the door to an almost endless range of possibilities for accusing loosely connected activities of patent infringement.

As both of the dissents in *Akamai II* point out, there is no legal basis whatever for relieving the patent owner of the need to prove direct infringement as a prerequisite to establishing indirect infringement. The majority opinion, by conflating possible exceptions to the single entity rule with indirect infringement, creates an entirely new and hybrid concept in patent jurisprudence. Direct infringement is a tort wherein strict liability attaches without regard to whether the infringer knew of the patent or the infringement. Indirect

infringement is a derivative tort with a scienter requirement – the infringer is liable only if it is aware of the patent and intends the infringement. The *Akamai II* decision, if allowed to stand, would leave courts and counselors hopelessly confused on this difference. In addition, the *Akamai II* decision would leave the issue of financial responsibility for the infringement unsettled. In typical cases of induced infringement, both the entity inducing the direct infringement and the entity carrying out the direct infringement are equally and fully liable for damages. Applied to the joint infringement situation, however, such a rule would be unjust in many if not most instances.

Regarding the circumstances under which an accused infringer should be held responsible for the conduct of others in carrying out some of the steps of a method claim, IPO believes that the "direction or control" test from *BMC* provides a workable legal standard for addressing this issue. IPO does not agree, however, that inquiry into "direction or control" should depend rigidly and woodenly on whether there is a formal agency or contractual relationship between the actors that compels the conduct alleged as infringement, as the original *Akamai* panel decision would have done. To the contrary, IPO believes that "direction or control" should be a factual inquiry, decided by a jury based on the totality of factors unique to the particular situation.

Given the variety and complexity of business arrangements that can be created today, we encourage the Court to look beyond the "technicalities of patent law" and adhere to the

general principle articulated in *Dawson Chem. Co. v. Rohm & Haas*, 448 U.S. 176, 188 (1980):

> [The doctrine of contributory infringement] exists to protect patent rights from subversion by those who, without directly infringing the patent themselves, engage in acts designed to facilitate infringement by others. This protection is of particular importance in situations . . . where enforcement against direct infringers would be difficult, and where the technicalities of patent law make it relatively easy to profit from another's invention without risking a charge of direct infringement.

The issues in this case are important, because interactive systems and interactive methods are rapidly developing in the healthcare, e-commerce, financial and other industries, as these industries respond to the need for greater efficiency and as they develop new methods of using the Internet and other network systems to lower costs. The Court should recognize that the incentives for investment and disclosure of these new interactive methods will be adversely affected by an overly restrictive approach to the issues in the case at bar.

ARGUMENT

I. THE MAJORITY OPINION IN *AKAMAI II* REFLECTS A SIGNIFICANT AND UNWARRANTED DEPARTURE FROM WELL SETTLED PATENT LAW

The terms "joint infringement" and "divided

infringement" are a relatively recent addition to our patent jurisprudence, occasioned for the most part by the increasing use of the Internet allowing companies to interact electronically with one another in a variety of novel ways and to pursue a wide range of useful end results. Typical scenarios in which the issue arises include those in which one party performs some of the steps in a patented process and causes others to perform the remaining steps,[3] or where parties collaborate through a partnership or system of joint management to perform all of the steps of a method or process,[4] or where a vendor performs certain steps in a method and instructs customers or subscribers to perform the remaining steps, as in the case at bar.

In *BMC*, the Federal Circuit addressed the issue of joint infringement in the context of patent claims for a method of approving monetary transactions using a telephone keypad. 498 F.3d at 1375-76. Once initiated by the user, the various steps in the approval process, which also were the steps in the patent claim, were carried out by multiple entities, thus allowing the defendant to argue that there was no one entity directly infringing, and therefore that there could be no indirect infringement. *Id.* at 1377-78. In a carefully drafted explanatory opinion, the Federal

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[3] Exemplary are *BMC*, 498 F.3d 1373, and *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008).

[4] *See, e.g., Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010).

Circuit agreed with the defendant, holding that without "direction or control" by the defendant of the entities that performed the missing claim steps in question, there was no infringement. *Id.* at 1381-82. The district court had found that despite some loose affiliations between the various entities in the transaction approval process, there was no direction or control by the defendant as to their activities. *Id.* at 1378. The appellate court left open, however, the possibility that in appropriate circumstances, *i.e.*, where "direction or control" is established, such joint or divided infringement might exist.[5]

The case at bar involves a method patent covering the use of proxy servers distributed throughout the country to manage the data demands on websites that might be experiencing high volume traffic. Plaintiff Akamai is the exclusive licensee of the patent and operates a network of such proxy servers. Defendant Limelight Networks is a competitor in the same business and sold proxy server services that performed all but one of the steps of the claimed method. In addition, Limelight provided specific and detailed directions to those customers for performing the final missing step of the patent claim whenever the customer wished to use the Limelight service for which it had contracted. After

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[5] A later Federal Circuit opinion, *Muniauction*, 532 F.3d at 1329-30, took the *BMC* case a step further, holding that providing instructions for infringing the patent was still insufficient to satisfy the "direction or control" requirement.

a trial in the district court, the jury found – as a factual matter – that Limelight's activity satisfied the *BMC* "direction or control" test for joint infringement, and the jury awarded damages.

The district judge granted judgment as a matter of law in favor of Limelight and a three-judge panel of the Federal Circuit affirmed. *Akamai Techs., Inc. v. Limelight Networks, Inc.* ("*Akamai I*"), 629 F.3d 1311 (Fed. Cir. 2010) (Linn, J.). Essentially, the panel held that nothing short of a formal agency or other contractual relationship specifically requiring performance of the missing claim element can satisfy the *BMC* test for conduct amounting to "direction or control":

> This court therefore holds as a matter of Federal Circuit law that there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps.

Id. at 1320.

In *Akamai II*, the appellate court, sitting *en banc*, reversed the panel decision and remanded to the district court. 692 F.3d 1301. The majority's *per curiam* opinion, despite the jury finding of infringement, assumed without much discussion that the *BMC* test for "direction or control" was not

satisfied by the facts established at trial.[6] The majority did, however, believe that the conduct of the defendant Limelight was an intrusion on Akamai's patent rights. *Id.* at 1318-19. The majority held that the "single actor" rule is not an iron-clad and unequivocal requirement of § 271(a) for showing direct infringement of a method claim, and that the plaintiff might therefore be able to show induced infringement under § 271(b), where one actor knowingly and intentionally caused another to perform the missing steps of the claim. *Id.* at 1306.

A dissent by Judge Newman argued that the court's adoption of the single actor rule in the first instance was improper, and that collaborative interaction among multiple actors that together perform all of the steps of the claim is sufficient to establish direct infringement. *Id.* at 1319-36. A dissent by Judges Linn, Prost, Dyk and O'Malley would have adhered to the original panel decision, requiring a formal agency relationship between the actors or a contractual commitment by one to carry out the missing step of a claim. *Id.* at 1337-51.

IPO believes that the majority's *per curiam* decision is incorrect, and we urge this Court to reinstate and clarify the rule that a "single entity" must be liable for direct infringement in situations

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[6] It is not entirely clear that the majority gave much thought to the jury finding of "direction or control" as an element of direct infringement. The opinion discusses that issue only in the context of indirect infringement under § 271(b). *Id.* at 1307-08.

where multiple entities perform acts that collectively perform each step of the claim of a method patent. These situations can arise when multiple companies work in concert, often – but not always – through contractual or agency relationships, to perform the steps of a claimed method. They are an increasingly common occurrence in numerous industries that rely on interactive or collaborative technologies and processes (*e.g.*, computer and wireless network operations, Internet commerce, delivery of medical services, and financial services).

II. THERE CAN BE NO INDUCEMENT OF INFRINGEMENT UNDER 35 U.S.C. § 271(B) WITHOUT A FINDING OF DIRECT INFRINGEMENT UNDER 35 U.S.C. § 271(A)

The doctrine of indirect infringement (*i.e.*, contributory and induced infringement), from its inception in the mid-1800's until the present, has existed to provide patent owners with a remedy against those who, by clever efforts to avoid patent claims, nevertheless cause others to infringe the claims. *See Dawson Chem.*, 448 U.S. at 179-80:

> The idea that a patentee should be able to obtain relief against those whose acts facilitate infringement by others has been part of our law since *Wallace v. Holmes*, 29 F. Cas. 74 (No. 17,100) (CC Conn. 1871).

The very nature of the doctrine, however, requires direct infringement by an actor before it is even a relevant topic for consideration. Prior to this case, we are unaware of any situation in which indirect

infringement was found in the absence of direct infringement.

For at least 50 years, this Court has made clear, explicitly and unequivocally, that to prove indirect infringement under §§ 271(b) or (c), a patent owner first must demonstrate "direct infringement" under § 271(a). This is as close to a rule of Black Letter Law as one finds in patent law. As this Court held in *Aro*, 365 U.S. at 341, "it is settled [law] that if there is no direct infringement of a patent there can be no contributory infringement." (Emphasis omitted.) *Accord, Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972) (patent law "defines contributory infringement in terms of direct infringement"); *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011) (showing of direct infringement under § 271(a) was necessary to demonstrate induced infringement under § 271(b)).

The majority opinion purports to base its departure from this well established principle on the theory that method claims should be treated differently in this respect from apparatus claims:

> When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer. But in the case of method patents, parties that jointly practice a patented invention can often arrange to share performance of the claimed steps between them.

Akamai II, 692 F.3d at 1305-06. This distinction has no foundation in the decisions of this Court, nor those of any other court, including the 32-year history of the Federal Circuit itself. *See, e.g.*, *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) (induced infringement of method claim required direct infringement); *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 76 (Fed. Cir. 2012) ("While active inducement can ultimately lead to direct infringement, absent direct infringement there is no compensable harm to a patentee."); *Desenberg v. Google, Inc.*, 392 F. App'x. 868, 871-72 (Fed. Cir. 2010) (affirming district court judgment of no indirect infringement of process claim "because there was no direct infringer, as required by precedent"); *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed. Cir. 1993) ("Liability for either active inducement of infringement or for contributory infringement is dependent upon the existence of direct infringement.").

The majority opinion also runs contrary to the statutorily created interdependence between §§ 271(a) and (b). Section 271(a) provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention . . . *infringes the patent*." 35 U.S.C. § 271(a) (emphasis added). Section 271(b) provides that "[w]hoever actively induces *infringement of a patent* shall be liable as an infringer." *Id.* at § 271(b) (emphasis added). Reading these provisions together with 35 U.S.C. § 281, which provides a "remedy by civil action for infringement of . . . patent[s]," the necessary implication is that infringement liability under §

271(b) must be predicated on one of the infringing acts enumerated in § 271(a). *See Davis v. Mich. Dept. of Treasury*, 489 U.S. 803, 809 (1989) ("It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.").

IPO submits that a finding of induced or contributory infringement without direct infringement would run directly contrary to nearly two centuries of established precedent and should be rejected by this Court.

III. THERE IS NO SCIENTER REQUIREMENT FOR DIRECT INFRINGEMENT UNDER 35 U.S.C. § 271(A)

One particularly important side effect of conflating possible exceptions to the single entity rule with indirect infringement, as the *Akamai II* majority would do, is its impact on the need to establish knowledge of the direct infringement and intent to cause such. In *Global-Tech*, this Court noted that direct infringement "has long been understood to require no more than the unauthorized use of a patented invention . . . [A] direct infringer's knowledge or intent is irrelevant." 131 S. Ct. at 2065 n. 2. Induced infringement under § 271(b), on the other hand, "requires knowledge that the induced acts constitute patent infringement" or willful blindness on the part of the

infringer. *Id.* at 2068.[7] As envisioned by the Federal Circuit's majority, however, knowledge of the "infringement" would become an essential requirement for infringement itself, and the patent owner would lose the ability to demonstrate infringement in its absence. *See Akamai II*, 692 F.3d at 1306 (holding that *Akamai* "and cases like [it]" can be resolved by applying only the law of induced infringement, without resolving the question of "whether direct infringement can be found when no single entity performs all of the claimed steps of the patent").

Compounding this problem is that scienter in the context of induced infringement under § 271(b) involves not merely simple knowledge of the infringement, but an affirmative intent to cause such infringement, which is a state of mind issue.

---

[7] The same is of course true of contributory infringement under § 271(c):

> Whoever . . . sells . . . a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, *knowing the same to be especially made or especially adapted for use in an infringement of such patent*, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C. § 271(c) (emphasis added).

Thus, in *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293 (Fed. Cir. 2006) (*en banc*), the Federal Circuit sitting *en banc* affirmed a finding of no inducement by a defendant who, though aware of the infringement it caused, did not intend to do so after receiving an opinion of counsel that its product did not infringe. This promises to inject opinions of counsel and discovery into state of mind issues merely to establish direct infringement. Such a requirement has never been part of our patent law.

IV. A PARTY CAN INFRINGE A PATENT DIRECTLY UNDER 35 U.S.C. § 271(A) WHERE IT "DIRECTS OR CONTROLS" THE ACTIONS OF ANOTHER PARTY

Proving direct infringement requires the patent owner to show that each and every element of the asserted claim is found in the accused product or service, either exactly or by equivalence. *See Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997); *Joy-Techs.*, 6 F.3d at 773; *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985). Normally, this requires the patent owner to demonstrate that all of the elements of an apparatus claim were made, used or sold by a single entity or that all the steps of a method claim were performed by a single entity. *See BMC*, 498 F.3d at 1379-80; *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed. Cir. 2005); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1568 (Fed. Cir. 1983).

As noted in Section I above, however, a few instances have surfaced, most of them in the last

decade, similar to the case at bar, in which an infringer attempted to escape from liability by arguing that another party – not the accused infringer – was responsible for one or more of the claim elements, and therefore there was no direct infringement. Although the Federal Circuit affirmed a summary judgment ruling for the defendant in *BMC*, the court nevertheless recognized that a direct infringer should not be permitted to escape liability merely "by having someone else carry out one or more of the claimed steps on its behalf." 498 F.3d at 1379. The Federal Circuit, in short, created a potential exception to the single actor rule for cases of joint infringement.

Recognizing the need for some limiting principles with respect to such an exception, however, the *BMC* court also established a "direction or control" test for determining whether the direct infringement component required by § 271(a) could be satisfied by the combined actions of multiple parties. Under this test, direct infringement can be found in multi-actor scenarios only if one party "directs or controls" the activities of another, such that each and every step is attributable to a single entity, sometimes referred to as the "mastermind." *Id.* at 1380-81.

IPO believes that this a workable test and one that should be adopted by this Court in place of the majority opinion in *Akamai II*. Requiring that a patent owner asserting joint infringement show that the defendant directed or controlled the missing steps of the claim will eliminate the possibility that simple customer relationships, or loosely connected enterprises, such as existed in the

BMC case, will be found to infringe. At the same time, the test has sufficient flexibility to protect the patent owner from subversion of its patent rights through cleverly designed schemes to avoid infringement while taking full advantage of the invention claimed in the patent.

IPO believes that whether or not "direction or control" exists should be treated as a factual inquiry for resolution by a jury and reversible only for lack of "substantial evidence." *See, e.g., Smith & Nephew, Inc. v. Rea*, 721 F.3d 1371, 1380 (Fed. Cir. 2013). Whether or not the test is met is likely to depend on a variety of factors that will be different in each case. The opportunity today for collaborative interaction among companies for their mutual benefit is almost limitless, and it is likely that direction and/or control questions will arise in many different settings. A properly instructed jury might consider, for example, (1) the closeness of the relationship between the defendant accused of direct infringement and the other entity that performed the missing steps of the claim; (2) the right of the defendant, by contract or otherwise, to demand performance of the missing steps by the other entity; (3) whether performance of the missing steps is an integral part of the relationship between the defendant and the other entity; (4) the extent to which the relationship between the defendant and other entity establishes the manner, details, timing or other features that lead to performance of the missing steps; (5) whether the defendant receives compensation at the time of or as a result of performance of the missing steps; (6) whether the defendant receives compensation for

any other part of the relationship that does not include performance of the missing steps; and (7) whether the defendant offers technical support and guidance to the other entity in connection with performance of the missing step. The foregoing are merely exemplary, but they illustrate the somewhat open-ended nature of what the inquiry should be.

Finally, with respect to infringement liability, IPO believes that in most cases only the controlling or directing entity should be held strictly liable for direct infringement under § 271(a). The *Akamai II* majority declined to address direct infringement liability, however, reasoning that its decision was "not predicated on the doctrine of direct infringement." *Akamai II*, 692 F.3d at 1307. That decision thus leaves unsettled the question of direct infringement liability for joint infringers and its differences from liability under contributory infringement principles. Unlike direct infringement, contributory infringement can result in joint and several liability for more than one entity. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476 (1964) (a contributory infringer is a "species of joint-tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff"). In typical cases of induced infringement, both the entity inducing infringement and the entity carrying out the direct infringement are jointly and severally liable for damages. *E.g.*, *Water Techs. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 968 (1988) (both direct infringer and consultant who induced infringement held liable for full amount of lost

profit damages). IPO believes that the well-established principles of direct and indirect infringement liability and damages, as articulated by this Court in *Aro* and applied by the Federal Circuit in *Water Techs.* and similar cases, should be reaffirmed.

V. CONCLUSION

For the foregoing reasons, this Court should hold that indirect infringement under § 271(b) requires a finding of direct infringement under § 271(a). The Court should adopt a practical "single entity" rule for joint direct infringement, whereby direct infringement can be found where one party "directs or controls" the actions of another. And, this Court should reaffirm that direct infringement is a strict liability offense, and that in joint infringement scenarios, direct infringement liability normally lies solely with the controlling or directing party.

Respectfully submitted,

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APPENDIX

APPENDIX[1]

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AMICUS CURIAE BRIEF

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AND
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v.

AKAMAI TECHNOLOGIES, INC., ET AL.,
Respondents.

On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

BRIEF FOR AMICUS CURIAE INTERNATIONAL BUSINESS MACHINES CORP. SUPPORTING NEITHER PARTY

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BRIEF FOR INTERNATIONAL BUSINESS MACHINES CORP. AS AMICUS CURIAE SUPPORTING NEITHER PARTY

INTEREST OF THE AMICUS CURIAE[1]

International Business Machines Corporation (IBM) is a globally recognized leader in the field of information technology research, development, design, manufacturing, and related services. During IBM's more than 100-year history, its employees have included five Nobel laureates, five National Medal of Science recipients, and ten winners of the National Medal of Technology. The United States Patent and Trademark Office (PTO) has granted IBM tens of thousands of United States patents—more patents each year than any other entity, for the last 21 years. Accordingly, IBM has long served as a leading advocate for sound patent policy.

IBM is uniquely positioned to provide a balanced perspective on the competing interests at stake here—ensuring that patent claims are properly enforceable but also provide proper public notice of the claimed invention. As one of the most successful licensors of technology in the world, IBM relies on its patents to advance its business interests. As a provider of innovative products and services in a broad range of fields, IBM is frequently forced to defend against charges of infringement. IBM therefore has

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[1] Letters reflecting the parties' consent to the filing of this brief are on file with the Clerk or being lodged herewith. No counsel for a party authored any portion of this brief. No party and no other entity, except *amicus* and its counsel, made any monetary contribution toward the preparation or submission of this brief.

no inherent incentive to favor licensees over patent owners, or vice versa.

SUMMARY OF ARGUMENT

This case came to the Federal Circuit as a dispute over the standard for establishing direct infringement—specifically, when the joint conduct of two entities can be combined to establish patent infringement. That was the basis of the panel's ruling. But when the *en banc* decision issued, direct infringement had completely disappeared from the case. The Federal Circuit instead adopted a rule that created liability for *inducing* infringement, even when no one is liable for *committing* infringement. That misguided attempt to give patentees a new enforcement tool is contrary to the statute, to this Court's decisions, and to the principle of public notice of patents' scope. The myriad unintended consequences of that rule have yet to be fully appreciated. Had the Federal Circuit stayed on course and used this case to clarify the law of direct infringement by multiple parties, none of those problems would have arisen.

I. Infringement is defined in the statute: "[W]hoever without authority makes, uses, . . . or sells any patented invention, within the United States . . . during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a). In the context of a method claim, infringement means performing each and every step of the patented method. The claim gives the public notice that performing all the steps infringes the patent—and that performing fewer than all the steps does *not* infringe the patent.

The Federal Circuit held that there can be liability for induced infringement even where no one satisfies

all of the requirements in the statutory definition of infringement. The court insisted that inducement liability can be triggered when multiple entities "collectively" perform the steps of a patented method, even if those entities do not have the kind of relationship with one another necessary to make them jointly liable for direct infringement. Under the Federal Circuit's holding, the accused infringer becomes responsible for the collective performance of method steps by multiple independent entities whenever he meets an attenuated and one-sided intent requirement. But Section 271(b) defines an inducer as one who "actively induces infringement of a patent," and this Court has consistently held there cannot be induced infringement where there is no direct "infringe[ment]" as defined by Section 271(a). Actions that do not meet all of the elements of that definition, such as those that are not performed "within the United States" or are not performed "without authority," are not a proper basis for proving either induced infringement under Section 271(b) or contributory infringement under Section 271(c),[2] even if they involve practicing all the elements of the patented invention. *See Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526-27 (1972); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 497-98 (1964) (*Aro II*). The reasoning of those cases is controlling here: actions that are not "infringe[ment]" under Section 271(a) cannot be a predicate for indirect infringement.

II. By creating liability where no one performs or is responsible for the performance of all the steps of a

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[2] Induced infringement and contributory infringement are collectively known as "indirect" infringement.

patent claim, the Federal Circuit's decision contravenes the public-notice principle that is at the heart of the modern Patent Act. The present-day statute requires particularized "claims," placing the burden on the patentee to tell the world precisely what steps or elements define his rights. Today, the patentee sets out the elements of his own claim, and every one of those elements is material. The balance between rewarding inventors and promoting innovation would be upset if the public could not invent and invest in reliance on those claimed elements: if any one of those elements is omitted, there must be no liability.

Yet here the Federal Circuit has created just such a form of liability without every element, by aggregating the acts of unrelated persons and imposing liability on their supposed common inducer—with whom they may have only a highly attenuated relationship. That rule upsets settled expectations by dramatically increasing the set of activities covered by each patent, including activities performed for years that the public reasonably believed were not infringing. Increased uncertainty and litigation will inevitably follow, especially in markets such as cloud computing, where the contributions of numerous product and service providers interoperate and are often consolidated. The statute's scienter element—which as a practical matter is easily satisfied once a target receives notice of the alleged infringement—does little to keep that expansion of liability in check.

This new rule is not justified, as the Federal Circuit seemed to think, by the need to make sure patents covering certain technologies or drafted in a certain way are enforceable. On the contrary, pa-

tentees must draft their claims to anticipate how their inventions will be affected by emerging technologies, and when they fail to do so, the patentees and not the public must bear the consequences. Thus, if a patentee drafted her claim in such a way that the claim cannot be infringed by a single person or set of jointly responsible persons, that is the patentee's own fault. There is no reason to give such a patentee a powerful new liability weapon, especially when doing so undermines the public-notice function on which the patent system depends.

III. The Federal Circuit should have looked for a solution in the place where this case started: the principle of joint liability for *direct* infringement. By avoiding that issue, the Federal Circuit has left the test for joint liability for direct infringement hopelessly murky. In particular, it has suggested at times that joint liability will attach only when one party is the "mastermind" and the other the agent. It has even reversed a jury's finding of joint liability on the ground that the defendants, who were equal partners, could not control one another and so were not liable for each other's conduct. The Federal Circuit has failed to address longstanding questions regarding the proper scope of joint liability for infringement and instead has created an additional set of problems with its new inducement-only rule. The Federal Circuit should have tackled the problem with *direct* infringement that its own precedents have created, rather than establishing a new and significantly more problematic standard for liability by disrupting the law of *induced* infringement.

Remanding this case would allow the Federal Circuit to do what it should have done in the first in-

stance and what the patent community expected it to do: to consider the diverse circumstances in which parties are responsible for each other's actions even absent a hierarchical relationship, such as general partners and joint venturers. If divided infringement truly presents a problem, principles of joint responsibility for direct infringement likely can solve it.

ARGUMENT

This case is here because at the *en banc* stage, the Federal Circuit tackled the wrong question and arrived at an answer that undermines sound patent policy. The panel had considered, and the *en banc* court was set to examine, a question of *direct* infringement under Section 271(a): "If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?" Pet. App. 196a.[3] As reflected in the 22 briefs submitted on rehearing by amici, including many of the world's leading companies, the Federal Circuit's precedents in that area were confused and ripe for clarification: it appeared that the Federal Circuit would find liability for direct infringement only when all steps of a patented method were performed by the same entity or someone under its "control or direction," and the scope of "direction or control" appeared to be narrowing. *See* Pet. App. 109a-117a. By contrast, there was no confusion about the basic rule that *indirect* infringement under

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[3] As the panel opinion noted, "Akamai waived any assertion of indirect infringement before trial," so the question on appeal was "one of direct infringement only." Pet. App. 109a n.3.

Section 271(b) or 271(c) "requires a predicate finding of direct infringement." *E.g.*, *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007); *see id.* at 1379.

Surprisingly and unnecessarily, the *en banc* court declined to address the question of joint direct infringement and instead dramatically expanded the law of induced infringement, contravening the statute and this Court's precedents and departing from the fundamental principle of public notice that the present-day Patent Act embodies.

I. Liability For Inducing Infringement Is Necessarily Tied To Direct Infringement

The patent statute defines inducement liability in Section 271(b): "Whoever actively induces infringement of a patent shall be liable as an infringer." Applying that provision essentially involves two inquiries: inducement, which requires scienter, and infringement. This Court has consistently turned to Section 271(a) to define infringement for other provisions of the Patent Act, including Sections 271(b) and 271(c). A straightforward reading of the statute compels reliance on the single, uniform definition of infringement set forth in 271(a).

Against this settled approach, the Federal Circuit's new rule creates an anomaly by improperly severing the connection between liability for direct infringement, under Section 271(a), and liability for inducing infringement, under Section 271(b). The *en banc* majority thought that the two concepts need not refer to one another, and that they simply set out different "type[s] of conduct that qualif[y] as infringing." Pet. App. 20a. Effectively, the *en banc* court created a

new kind of "infringement," completely untethered from the requirements of the statute and the prior decisions of this Court. But under the statute, infringement has only one defined meaning—*i.e.*, committing the acts specified in Section 271(a)—and this Court's decisions show that inducing or contributing to infringement must incorporate every element of that definition as well.

Under the Federal Circuit's rule, the "infringement" induced under subsection (b) need not be conduct that "infringes the patent" under subsection (a). That interpretation cannot be reconciled with the statute or with this Court's cases.

A. Section 271(a) Defines "Infringement"

There is only one definition of "infringement" in the Patent Act. "Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a). To be "infringement," conduct must meet each and every element of that definition.

By establishing what is necessary for direct infringement, Section 271(a) gives content to the patentee's "right to exclude," 35 U.S.C. § 154(a). It thus sets out the substantive standards for a patentee's civil action against an infringer, *see* 35 U.S.C. § 281 ("A patentee shall have remedy by civil action for infringement of his patent."), or a declaratory-judgment action against a patentee, *see, e.g.*, *Med-*

tronic, Inc. v. Mirowski Family Ventures, LLC, No. 12-1128, slip op. at 8-9 (Jan. 22, 2014).

But as this Court has recognized, Section 271(a) also defines "infringement" for other purposes: it is the source from which other provisions, including 35 U.S.C. § 271(b), draw their concept of patent infringement. *See, e.g., Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 (2011) (citing Section 271(a) as defining the infringing conduct that an inducer must induce); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 342 & n. 8 (1961) (*Aro I*) (Section 271(a) "defines 'infringement'"). Subsection (a) defines what infringement *is*; subsection (b) and other provisions in the Patent Act rely on that definition.

Even if Section 271(a) were not a definitional provision *per se*, this Court would still presumptively apply the "normal rule" that the terms "infringes" and "infringement" in subsections (a) and (b) have a common meaning. *E.g., Taniguchi v. Kan Pac. Saipan, Ltd.*, 132 S. Ct. 1997, 2004-05 (2012) (citations omitted). Here, while the meaning of "infringes" in subsection (a) as it applies to joint infringers may be somewhat unsettled, *see* Section III, *infra*, the *en banc* court made no effort to resolve that meaning, much less to reconcile it with the court's construction of subsection (b). *See* Pet. App. 5a-6a. Instead, the court just needlessly cut the tie between subsections (a) and (b).

B. The Federal Circuit Has Unmoored Inducement Liability From The Concept Of Infringement That Anchors It In The Statute

The Federal Circuit apparently concluded that at least as it relates to liability for induced infringement, "there *has been* direct infringement" whenever all of the elements of a patented invention are practiced—no matter when or by whom. That conclusion necessarily ignores the definition of infringement written into the Patent Act by Section 271(a), including its explicit limitations and the implicit limitations recognized by this Court. For example, to be "infringement," an act must be "without authority," it must be "within the United States," and it must be "during the term of the patent" for the patented invention. And relevant here, Section 271(a) limits liability for infringement of a method patent to "whoever . . . uses" the patented method, *i.e.*, to the person that performs each and every step of the patented method, either itself or through others for whose conduct it is legitimately responsible. This Court has made clear that those limitations on *direct* infringement also limit *indirect* infringement under Sections 271(b) and 271(c). By cutting the link with Section 271(a), the Federal Circuit leaves no reason why those important limitations—or any other limitation that this Court and the Federal Circuit have long read into the cause of action for direct infringement—would apply to liability under Section 271(b) or 271(c). The Federal Circuit's decision cannot be squared with this Court's decisions.

For example, in *Deepsouth*, this Court recognized that direct infringement is limited to actions "within

the United States," 35 U.S.C. § 271(a), and it so limited contributory infringement as well. The defendant in *Deepsouth* exported the components of the patented invention, and the overseas customers assembled them—thus "making" the patented invention. If the defendant's customers had been based in the United States, there is no doubt that the defendant would have been liable for induced or contributory infringement. But they were not based in the United States. And because they were not, their actions did not constitute infringement under the statute, and the defendant could not be held liable for contributing to infringement. 406 U.S. at 526-27.

Similarly, this Court's decision in *Aro II* applies another limitation borrowed from Section 271(a). Direct infringement requires that the defendant acted "without authority." 35 U.S.C. § 271(a). In *Aro II*, it was "clear" that the defendant's customers were making the patented invention (by repairing it). 377 U.S. at 483. Those who did so "without authority" were infringers, and Aro was a contributory infringer. *See id.* at 483-85. But this Court determined that many of Aro's customers "had a 'license'" to repair the patented article. *Id.* at 497-98. "Hence they did not commit direct infringement under § 271(a) when they had the fabrics replaced," and Aro "did not commit contributory infringement under § 271(c)." *Id.* at 498.[4]

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[4] Observing that the *Aro* cases involved a product claim, the Federal Circuit held that the problem of divided infringement does not arise for product claims as it does for method claims. Pet. App. 24a-25a. That policy-based distinction ignores this Court's *reasoning*, which held that the limitations of Section 271(a) also limit indirect liability under Sections 271(b) and

Just as Section 271(a) establishes that overseas conduct and authorized conduct are not "infringement," it also establishes that "collective[]" conduct of the sort the Federal Circuit perceived here is not infringement. To the *en banc* court, inducing infringement includes inducing others to perform, "collectively," the steps of a patented method. Pet. App. 2a, 6a, 9a. But as the *en banc* court used the word, "collectively" just means "separately." And when the steps or elements of an invention are performed separately, rather than by the same person or entity, or those deemed legally responsible for one another's actions, there is no infringement. That is because under the patent laws, "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997). Therefore, there can be no infringement unless the infringer performs *each and every* limitation (or the equivalent) set out in the patent. *See, e.g., id.* at 40 (stating that "the essential inquiry" is: "Does the accused product or process contain elements identical or equivalent to each claimed element of the patented invention?"); *Cimiotti Unhairing Co. v. Am. Fur Ref. Co.*, 198 U.S. 399, 410 (1905).[5]

If multiple entities' "collectively" but separately performing the steps of a method is not enough to show direct infringement, without some sort of legal

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271(c). *See, e.g., Aro I*, 365 U.S. at 342 (Section 271(a) "defines 'infringement'" for these purposes).

[5] In the context of a method claim, proving infringement requires proving that the infringer performed *each step* of the patented method, because each step is a limitation. *See, e.g., Canton Bio-Med. v. Integrated Liner Tech.*, 216 F.3d 1367, 1370 (Fed. Cir. 2000).

"relationship between the actors," Pet. App. 6a, the straightforward conclusion is that such separate activity is not enough to serve as a predicate for *induced* infringement, either.[6] The Federal Circuit resisted that conclusion, holding that Section 271(a) does not define the predicate for induced infringement, but that reasoning would have required it to decide *Deepsouth* and *Aro II* squarely contrary to this Court's holdings. The Federal Circuit would have reasoned that the patents were, in fact, being infringed, because in both cases someone was making the patented inventions, and the Federal Circuit saw "no reason" to distinguish between inducing others to "collectively practice the steps of the patent method" and inducing "a single direct infringer" to commit infringement as defined by Section 271(a).[7] Pet. App. 9a. But the law does see reason to distinguish: the patentee has no basis for expecting anyone to be liable for damages or injunctive relief when no one has met the definition of "infringement" set out in Section 271(a). That was the case in both *Deepsouth* and *Aro II*. And because there was no direct in-

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[6] Under the Federal Circuit's test, the scienter element is the only tie that "connects" the inducer to the persons whose actions are being induced. Even that one-way connection is tenuous: the inducer must simply intend to cause actions that it knows are infringing (and this knowledge can be satisfied by proving "willful blindness"). *Global-Tech*, 131 S. Ct. at 2069. That is no substitute for a recognized relationship whereby at least one party is responsible for another's actions. *See* Section II.C, *infra*.

[7] The Federal Circuit dismissed *Aro I* (Pet. App. 23a-24a) based on a "reconstruction-repair distinction," which this Court explained in *Aro II* was significant only where the customer had a license. 377 U.S. at 480. Thus, Aro's unlicensed customers did practice the invention and *were* directly liable simply for making a "repair." *Id.* at 484-45.

fringement, there could be no contributory or induced infringement, and no liability.

Preserving the rule that liability for indirect infringement follows liability for direct infringement also preserves harmony among the Patent Act's liability and remedy provisions. By allowing liability for inducement without liability for infringement, the Federal Circuit's rule poses significant "new uncertainties" regarding remedy. Pet. App. 55a (Newman, J., dissenting). Patentees like respondents will be largely unable to obtain effective injunctive relief on an inducement-without-infringement theory: even if the defendant were enjoined from *inducement*, the persons who, "collectively," are practicing the steps of the patented method would be free to continue their conduct—their individual actions may constitute "pieces" of an "infringement" induced by another, but they are not liable for direct infringement as defined in Section 271(a). As a result, patentees' sole remedy will be to pursue the alleged inducer for damages. Under the statute, damages must be "adequate to compensate for the *infringement*, but in no event less than a reasonable royalty for the use made of the invention by the *infringer*," 35 U.S.C. § 284 (emphases added), but here there is no "infringement" and no "infringer" against whom damages may be assessed. As the alleged inducer likely lacks control over the induced entities (who otherwise would be joint infringers), it cannot stop those entities' activities or the resulting injury to the patentee. Neither can the patentee. So damages will continue to mount, with

the cost of compliance shifted to the alleged inducer in perpetuity.[8]

Congress has since created a way to impose induced-infringement liability on facts like those in *Deepsouth*. But in that new, narrow exception, Section 271(f), Congress preserved the principle that practicing a patent overseas is not infringement: Section 271(f) refers to the combination of components "outside of the United States in a manner that *would* infringe the patent *if* such combination occurred within the United States," but it never treats the extraterritorial conduct *as* infringement. Rather, the enactment of Section 271(f) shows that a special statutory provision was needed to create liability for inducement absent direct infringement under Section 271(a). The adoption of that special exception certainly does not sever the link between infringement under Section 271(a) and indirect infringement under Section 271(b) or 271(c) for any conduct not covered by Section 271(f). To the contrary, Congress manifested its acquiescence in the broader principles for which the *Deepsouth* and *Aro II* decisions stand.

As this Court has explained, given Congress's careful and calibrated attention to the patent laws, and in particular to the relationship between direct and indirect infringement, it would be inappropriate for this Court to reinterpret the statute to close openings that Congress left intact. Any such "'loophole,' in

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[8] To protect themselves against this rule, service providers would need to seek promises from their customers to refrain from *non-infringing* activity when it gives rise to *inducement* liability against the service provider. Injecting such an issue will significantly distort ordinary business relationships in ways that previously were not possible.

[this Court's] judgment, is properly left for Congress to consider, and to close if it finds such action warranted." *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 457 (2007).

II. The Federal Circuit's Rule Of Liability Without Infringement Is Squarely Contrary To The Public-Notice Values Embodied In The Patent Act

The present-day Patent Act requires patent applicants to specify in writing precisely what inventions they claim. That requirement reflects more than a century of Congressional refinement of the law to provide not only clearly defined rights for patentees, but also notice and certainty to inventors and the public. The balance between those values best "promote[s] the Progress of Science and useful Arts." U.S. Const. art. I, § 8, cl. 8.

Under the Federal Circuit's rule, a party trying to assess whether or not it could be liable for indirect infringement is forced to consider not just what steps of a claim it may perform itself, but also what steps other, independent entities might be performing and whether it might be accused of inducing their conduct. The *en banc* court allowed liability to be premised on a "collective[]" view of induced infringement, under which the elements of the patent are performed by different persons or entities that may have no connection to each other, aside from the one-sided and often attenuated scienter requirement for an inducer. Disaggregating the "infringement" in that manner deprives the public of adequate notice of what conduct they must forgo in order to avoid claims of induced infringement. This uncertainty

has a chilling effect on innovation and the investment that fuels it.

A. Public Notice Encourages "Efficient Investment in Innovation"

"A patent holder should know what he owns, and the public should know what he does not." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002). Patents provide an incentive both to innovators, who seek patent protection to license or exclude others from practicing inventions that fall within the scope of their patents, and to the public, who, informed by the patent disclosure, may provide additive or alternative innovations outside the scope of the patent. "[E]fficient investment in innovation" requires that the risk of infringement be reasonably ascertainable *before* any investment is made. *Id.* at 730-31.

Even the *possibility* of patent liability creates risks that may deter investment: no business wants to back a project that is removed from the market by injunction, much less one that results in a substantial award of damages. The Court observed many years ago that "[a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field." *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942). In today's economy and litigation climate, the "zone of uncertainty" is if anything even *more* inhospitable to innovation than a field where patent licenses are unambiguously required.

The Federal Circuit's holding in this case undermines businesses' ability to proceed with confidence in making an investment in new technology. By imposing liability under circumstances that are neither foreseeable nor predictable—the aggregation of non-actionable conduct by independent parties connected only by the limited scienter requirements of inducement—the Federal Circuit's rule disturbs settled expectations of parties who have made investments in technology after evaluating and accounting for the risk of infringement.

B. More Definite Patent Claims Promote Innovation By Both Informing The Public And Making The Scope Of The Patent Grant Clear

In furtherance of the policy to promote "efficient investment in innovation," *Festo*, 535 U.S. at 730-31, the Patent Act requires that a patentee not only describe, but "particularly point[] out and distinctly claim[] the subject matter which [he or she] regards as the invention." 35 U.S.C. § 112(b). The present-day requirement that a patent "conclude with" these specific written "claims," *id.*, was added to provide the public with better notice and greater certainty concerning the scope of the rights protected by a patent, after long experience under a system that instead allowed courts to define an inventor's rights through litigation. *See, e.g., Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 957-58 (Fed. Cir. 1987) (*en banc*) (Newman, J., commentary).

The claim is the starting point for all analysis concerning the validity or infringement of the patent. Giles S. Rich, *Extent of Protection and Interpretation*

of Claims: American Perspectives, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499 (1990) ("[T]he name of the game is the claim."). The PTO compares the claims to the prior art to determine whether to issue a patent. Courts make the same comparison to assess any challenge to the patent's validity and to determine whether the patent is infringed. In each respect, Congress's decision to require a claim written by the patentee, rather than one constructed judicially through litigation, gives the outcome a degree of predictability that the previous system lacked—and that predictability, in turn, encourages investment in innovation.

Under the Federal Circuit's rule, a party trying to assess whether or not it could be liable for indirect infringement is forced to consider not just what steps of a claim it may perform itself, but also what steps other independent entities might be performing and whether it might be accused of inducing their conduct. Notably, that inducement might be quite indirect: in one of the cases consolidated below, the Federal Circuit held that inducement liability could lie where the defendant, Epic, "does not perform any steps of the patent," but those steps are instead divided between Epic's customers *and its customers' customers*. Pet. App. 4a; *see id.* at 29a-30a.

That regime is fundamentally incompatible with the public-notice function of patent claims, and it poses a direct threat to some of the most vibrant and flourishing areas of the modern economy. For example, the emerging field of cloud computing enables new business models which involve sharing of computing resources among entities that have only tenuous relationships. Software as a service ("SaaS") is

one such model, whereby "'[c]loud-based applications(s)' run on distant computers 'in the cloud' that are owned and operated by others and that connect to users' computers via the Internet and, usually, a web browser." IBM, *What Is Cloud? Computing as a service over the Internet*, http://www.ibm.com/cloud-computing/us/en/what-is-cloud-computing.html (last visited Mar. 2, 2014). Cloud computing enables "convenient, on-demand network access" precisely because it allows shared resources to be "rapidly provisioned and released with minimal management effort or service provider interaction." Peter Mell & Timothy Grance, Nat'l Inst. of Standards & Tech., Special Publication 800-145, *The NIST Definition of Cloud Computing* 2 (Sept. 2011), http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf. These relationships might well be deemed to trigger inducement liability under the Federal Circuit's test, but that outcome is wholly inconsistent with the principle of public notice. By contrast, limiting induced infringement to situations where there is direct infringement—either through a single direct infringer acting alone or in conjunction with parties for which it is legally responsible—serves the public-notice function of patent claims. The public will be able to understand the scope of a patent right, because infringement will depend on all steps of the claimed invention being performed by a single entity (or other entities for which it is properly held responsible). That makes it possible to assess the infringement risk correctly. With the cloud of uncertainty removed, investment in innovation can flourish.

C. The Specific-Intent Element Does Not Provide Public Notice

The *en banc* majority suggested that its rule is compatible with providing adequate public notice because induced infringement requires specific intent to cause infringement. Pet. App. 7a n.1. But the intent element of inducement is not an effective shield. The Federal Circuit has held that a letter or a complaint alleging infringement can provide knowledge of a patent and the alleged infringing acts. *Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1364 n.4 (Fed. Cir. 2006) (letter provided knowledge); *Mentor H/S Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1379 (Fed. Cir. 2001) (same); *In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1342 (Fed. Cir. 2012) (complaint provided knowledge). If a party receives notice and does not immediately cause the allegedly infringing conduct to cease, the patentee likely can make out the intent element of induced infringement. *See Golden Blount*, 438 F.3d at 1364 n.4; *Mentor H/S*, 244 F.3d at 1379; *In re Bill of Lading*, 681 F.3d at 1342. Therefore, a party that is not infringing because it lacks the requisite intent may be liable for inducing infringement upon receiving a letter or complaint.

Moreover, "a wide variety of acts" have been found to constitute active inducement, and many of them involve only a distant relationship between the inducer and induced entity, including advertising, instruction, and product repair. *E.g.*, 5 Donald S. Chisum, *Chisum on Patents* § 17.04[4], at 17-154 to 17-186. Thus, under the Federal Circuit's test, providing instructions for use of unconnected steps of a patented method could give rise to inducement liability

on receipt of a notice letter, even if those unconnected steps standing alone have never infringed and will never infringe any patent claim. A manufacturer or service provider that had invested in its business and spent years operating lawfully—possibly after a thorough patent clearance concluding there was no infringement and no liability—could suddenly become liable as an inducer after receiving a notice letter accusing the manufacturer of aggregating the activities of its customers into an infringing whole. The Federal Circuit's rule would allow that result even if the activities, taken separately, had been in the public domain for years. And that rule may now embolden opportunistic patentees to draft claims specifically designed to surprise manufacturers after they and other entities with which they have some attenuated relationship have invested in practices that they reasonably believed were non-infringing. This possibility of ambush and the unwarranted loss of investment caused by the Federal Circuit's rule does not promote innovation; to the contrary, it instead amounts to an unwarranted removal of subject matter from the public domain where it had been squarely fixed.

D. Patentees Draft Their Own Claims, So Any Perceived Need To Enforce Poorly Drafted Claims Does Not Justify Sacrificing Public Notice

The Federal Circuit's ruling appears to be predicated on its belief that it would be unfair to a patentee if prospective infringers could evade infringement by dividing steps of a claim between them. But during the process of prosecuting a patent application, the patentee controls the application and the patent

claims that are submitted for examination. The patentee thus can draft its claims to capture direct infringement, and avoid drafting a claim whose steps are performed by different, unrelated entities. If he does not, the burden of that choice properly falls on him—whereas the Federal Circuit's rule places the burden on the inventing and investing public.

Only modest effort is needed to draft claims to capture a direct infringer and avoid the risk of divided infringement. Pet. App. 95a-96a (Linn, J., dissenting). Specific claim drafting techniques to avoid the risk of divided infringement are well known and have been the subject of legal scholarship. Mark A. Lemley, *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 272-73, 282 (2005) (advising that claims be drafted to capture the actions of a single party and providing examples); *see, e.g., Emtel, Inc. v. Lipidlabs, Inc.*, 583 F. Supp. 811, 829 n.7, 840 (S.D. Tex. 2008) (providing an example of how the claim of the patent-in-suit could have been rewritten to avoid a divided infringement issue).

More generally, innovation in technology regularly leads to innovation in claim drafting. If a new technology makes divided infringement possible, drafters working on patents in that field should compensate by focusing their claims to capture a single direct infringer. For example, early in the evolution of software, patentees did not have a claim format to cover the actions of software providers who shipped their software on disks or drives to end-user customers. Method and apparatus claims were practiced by end users and not software providers, who were liable only for indirect infringement. Innovative claim drafting addressed the problem by focusing coverage on

the software provider: IBM drafters developed the so-called *Beauregard* claim, which claims "a computer readable storage medium" encoding particular instructions. Such a claim is infringed when the software is encoded on a disk, not when it is run. *See, e.g.*, Ryan Sharp *et al.*, *Can Beauregard Claims Show You the Money?*, 2 Cybaris: An Intell. Prop. L. Rev. 25, 31-32 (2011). As software distribution evolved to distribution over networks, claim drafters began to adjust again.

While patent practitioners are free to adapt their claim drafting to address the advent of new technologies, the patent statute must remain technology-neutral, not construed to advantage or disadvantage specific technologies such as the interactive network technology at issue in this case. *See* IBM Amicus Br. at 22-23 & n.10, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, No. 13-298. Section 271(b) does not change its meaning based on whether the patent supposedly being infringed is a method patent or an apparatus patent, or based on whether it involves software or machinery. Either an induced-infringement claim requires proof of direct infringement, or it does not. The statute is technology-neutral, and as such, it should not be warped for the sake of protecting holders of one class of patents.

Given patentees' substantial freedom to draft claims as they wish, the problem that the Federal Circuit sought to solve here is a problem of patentees' own making. There is no reason for the Federal Circuit to adopt a rule so at odds with the public-notice considerations that the patent laws embody.

III. The Federal Circuit Should Devote Its Attention To Joint Infringement

The *en banc* court appeared to regard its unprecedented alteration of the law of indirect infringement as a necessary response to the phenomenon of divided infringement. It adopted its rule—induced infringement without actionable direct infringement—because it perceived the sole alternative as a "single entity" rule, which would completely defeat liability where the infringing acts are divided among more than one entity. *See, e.g.*, Pet. App. 3a, 10a, 12a, 18a n.5, 21a, 22a, 23a n.6, 29a. But the rule that indirect infringement requires direct infringement is settled in the law and this Court's cases, whereas the "single entity" rule is not. The Federal Circuit would have done better to re-examine whether its own "single entity" cases set an unduly high bar to joint liability for *direct* infringement. If this Court remands, the Federal Circuit will have another opportunity to re-examine that rule—and may be able to resolve the very divided-infringement problem it identified here.

The Federal Circuit has acknowledged that "[a] party cannot avoid infringement . . . simply by contracting out steps of a patented process to another entity." *BMC*, 498 F.3d at 1381. "In those cases, the party in control"—the "mastermind"—"would be liable for direct infringement," because the mastermind is responsible for its agent's acts as well as its own. *Id.* Together, those acts add up to patent infringement. *See also, e.g.*, Pet. App. 37a-41a (Newman, J., dissenting).

Where the Federal Circuit may have erred is in requiring not just agency, but hierarchy, suggesting that "arms-length agreements" may defeat liability

because neither party exercises "control or direction" over the other—*i.e.*, because there is no mastermind. *BMC*, 498 F.3d at 1381; *see also Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008) ("[T]he claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'"). The lack of a mastermind apparently caused the court of appeals to throw out a jury's verdict of joint infringement against two co-venturers, despite their close working relationship (considerably closer than the relationships here, between a vendor and its customers or even its customers' customers, *see* p. 19, *supra*). The two companies "formed a strategic partnership, enabled their two programs" (which together performed the patented method and embodied the patented apparatus) "to work together, and collaborated to sell the two programs as a unit." *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367, 1371 (Fed. Cir. 2010). The jury found them both directly liable, jointly. Yet because the evidence was "insufficient for [the] jury to infer control or direction," *id.* at 1380-81, both the district court and the Federal Circuit felt they had to throw out the verdict. *Id.*; *see also Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, No. 2:06 CV 381, 2009 WL 943273, at *3 (E.D. Tex. Apr. 3, 2009) (holding that because "emsCharts and Softtech are two separate companies," "one of the companies needed to control or direct the other for their [conduct] to be joint infringement"), *aff'd in relevant part*, 614 F.3d at 1380-81.

Rather than concluding that divided infringement presents a hopelessly intractable problem warranting a drastic solution like the one adopted below, this

Court should direct the Federal Circuit to re-examine its standards for divided *direct* infringement. The current law acknowledges that companies cannot automatically defeat patent liability merely by outsourcing a single step of the patented method. *See* p. 25, *supra*. And if cooperating parties too often escape infringement liability, that situation may be traceable to the Federal Circuit's particular focus on the hunt for the "mastermind."

Long before the current Patent Act was adopted, the common law recognized that the principle of agency does not depend on a hierarchical relationship between principal and agent. The most basic principles of partnership law make clear that equals—such as partners or joint venturers—may bind each other. That is because they have both agreed to create a partnership and to serve as its agents—and hence, as agents of each other—even though neither partner has the absolute right to control or direct the other. *See, e.g.*, Revised Uniform Partnership Act § 301 (1997) ("Each partner is an agent of the partnership for the purpose of its business."); *see also, e.g.*, *Kansallis Fin. Ltd. v. Fern*, 659 N.E.2d 731, 736 n.7 (Mass. 1996) (Fried, J.) ("Partners are the general agents of each other while transacting the partnership business . . . .") (citation omitted); *Gramercy Equities Corp. v. Dumont*, 531 N.E.2d 629, 632 (N.Y. 1988) (partners and joint venturers are "agents for each other" and therefore "jointly and severally liable to third parties for 'any wrongful act or omission of any partner acting in the ordinary course of the business of the partnership'" (quoting N.Y. P'ship Law §§ 24, 26(1))).

True joint venturers face no public-notice problem like the one that confronts potential inducers under the decision below, *see* Part II, *supra*. Joint venturers accept responsibility for one another's actions within the scope of the joint venture—a far more definite proposition than the actions of customers' customers, or others whom a defendant may be said to have "induced."

The Federal Circuit should exercise caution, however, when fashioning rules for joint direct-infringement liability absent a mastermind. Partners and joint venturers, properly and rigorously defined, may fairly be held responsible for each other's actions. But any approach to joint direct-infringement liability that does not depend on such established, concrete, legally significant relationships could subject separate actors to unpredictable liability in the same manner as the "inducement without infringement" approach the Federal Circuit took in this case. Providing reasonable predictability and preserving the public-notice function of patent claims requires a clearly defined, readily ascertainable, and sufficiently high standard of purposeful, collective action between parties.

Accordingly, before this Court concludes that the divided-infringement problem is intractable, the Federal Circuit should have the opportunity to decide this case as it should have in the first instance, under the rubric of divided direct infringement, and to provide guidance for other cases like this one.[9]

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[9] In addition to joint liability, the Federal Circuit has held that a defendant can be directly liable if its device or software performs a patented method or uses a patented system, even if someone else switches on the device or runs the software. But

Sustained attention to the problem at the appellate level over time may result in a better-thought-out rule. IBM takes no position on the outcome, except that this Court should not pretermit the process. *Cf.*, *e.g.*, *Warner-Jenkinson*, 520 U.S. at 40 (leaving the "refine[ment of] the formulation of the test for equivalence" to the Federal Circuit "in the orderly course of case-by-case determinations").

---

the standards are altogether unclear. *Compare, e.g.*, *SiRF Tech., Inc. v. ITC*, 601 F.3d 1319, 1329-31 (Fed. Cir. 2010) (maker of devices and software responsible for performance of patented method when customers use device), *with Centillion Data Sys. v. Qwest Commc'ns Int'l, Inc.*, 631 F.3d 1279, 1286-88 (Fed. Cir. 2011) (defendant's software does not "make" or "use" patented method when customers use it).

CONCLUSION

The judgment of the court of appeals should be reversed, and the case should be remanded to the court of appeals to decide the question of direct infringement and, if necessary, to apply the correct standard for induced infringement.

Respectfully submitted.

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March 3, 2014

AMICUS CURIAE BRIEF

RECORD
AND
BRIEFS

No. 12-786

APR 2 - 2014

In The
Supreme Court of the United States

LIMELIGHT NETWORKS, INC.,
Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., *et al.*,
Respondents.

ON WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICUS CURIAE* ROBERT MANKES IN SUPPORT OF RESPONDENTS

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INTEREST OF AMICUS CURIAE[1]

Robert Mankes is an individual inventor. Mr. Mankes is the sole inventor and owner of U.S. Patent No. 6,477,503 ("the '503 patent") entitled "Active Reservation System" which relates to a reservation system for theatres, hotel chains, and other businesses that offer reservations. Mr. Mankes observed a common challenge facing vendors in industries that offer reservations. Businesses were struggling to make sufficient inventory available to satisfy walk-up, in-person demand and fill advance reservations at the same time. Mr. Mankes solved these problems through the invention disclosed in the '503 patent. Mr. Mankes' invention allows a vendor to accommodate local walk-up customers and accept advance reservations available through a remote platform. Mr. Mankes' invention is being practiced by businesses in industries that offer reservations, some without a license from Mr. Mankes.

Mr. Mankes is engaged in litigation to vindicate his rights in his invention. *See Mankes v. Fandango, LLC*, No. 5:13-cv-00716-FL (E.D.N.C. filed Oct. 14, 2013); *Mankes v. Vivid Seats*, No. 5:13-cv-0717-FL (E.D.N.C. filed Oct. 14, 2013). More than eight years after Mr. Mankes filed for patent protection on his invention and well after his patent

---

[1] No counsel for a party authored this brief either in whole or in part. No party other than Mr. Mankes provided monetary compensation to fund the preparation or submission of this brief. Petitioner provided blanket consent to the filing of amicus briefs on January 31, 2014. Respondents' counsel consented to the filing of this brief in writing on February 11, 2014.

issued, the Federal Circuit announced its single-entity rule for direct infringement in *BMC Resources, Inc. v. Paymenttech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007). The Federal Circuit's rule has severe consequences for Mr. Mankes. It means businesses are free to partner with one another to practice the '503 patent and Mr. Mankes is practically powerless to hold them accountable for direct infringement under 35 U.S.C. § 271(a). That result is at odds with the Patent Act and sound public policy.

As an independent inventor faced with bearing the brunt of the Federal Circuit's rigid rule, Mr. Mankes is in a unique position to speak to the issues before this Court. For Mr. Mankes, Petitioner's invitation to write different patent claims rings particularly hollow. Mr. Mankes has a vital interest in this Court reinstating the pre-*BMC* law of direct infringement.

SUMMARY OF ARGUMENT

Patents encourage investment and expand the body of knowledge within the public domain. In exchange for disclosing new and non-obvious inventions, inventors are granted an exclusive right to practice their inventions. The award of exclusive rights incentivizes innovation by allowing inventors to profit from their inventions. The disclosure of new and non-obvious inventions benefits society by increasing the body of knowledge in the public domain.

The single-entity rule as recently stated by the Federal Circuit undermines the careful balance of interests underlying the Patent Act by denying effective protection to inventive processes comprised of steps that can be performed by two or more entities. Under the single-entity rule, anyone can benefit from the use of a patented process and avoid liability by dividing the steps of the patented process among two or more participants through arms-length transactions without any one participant directing or controlling the actions of the other participants. The patent right is rendered "a hollow and useless thing," *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950), by denial of an effective remedy for infringement, reducing the incentive to innovate and undermining the purpose of the patent laws "[t]o promote the Progress of Science and useful Arts," U.S. Const. art. I, § 8, cl. 8.

Petitioner and its amici have suggested that the problem in *Akamai* is poor claim drafting which could be solved by drafting claims from the

perspective of a single entity. Pet. Br. 45–47; EFF Br. 5–7. The assumption that single-entity claim drafting can adequately protect innovative processes is incorrect and is not proven by the few cherry-picked examples presented to this Court.

Further, the expectation that the claim drafter can anticipate all possible schemes that a knowing infringer might employ to circumvent the patent is unreasonable. The claim drafter should be free to draft clams that unambiguously define the invention and not be held prisoner of a formula necessitated by the inadequacy of the single-entity rule in protecting innovation. The problem is not with claim drafting, but with the Federal Circuit's narrow single-entity rule that denies protection to processes involving steps that can be divided among multiple actors. The single-entity rule for direct infringement underprotects inventions and undermines the incentive to invest in innovation. This fundamental flaw in the single-entity rule cannot be fixed by clever claim drafting.

Claims that unambiguously recite the steps of an innovative process provide the best protection for inventive processes. Claims that instead focus on potential actors or participants in the process subvert clear claim drafting. A jurisprudence that promotes such tactics is inconsistent with the Patent Act's focus on protecting inventions. Claims directed to the essential steps will more clearly define the scope of the patent right and provide notice of what constitutes an infringement. Infringement should be found whenever those essential steps are performed, including when performed by persons acting in

concert. The law of joint infringement as developed prior to *BMC* protects unwitting participants from liability and imposes liability for infringement on those that attempt to benefit from the use of a patented process.

ARGUMENT

I. The Overly Narrow Single-Entity Rule Undermines Incentive to Invest in Innovative Processes and Is Not Faithful to the Purpose of the Patent Act in Promoting the Progress of Science and the Useful Arts

Patents are "affected with a public interest" and are "designed to serve the public purpose of promoting the Progress of Science and useful Arts." *Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806, 816 (1945) (internal quotation marks omitted). In exchange for disclosing new and non-obvious inventions, inventors are granted an exclusive right to practice their inventions for a limited time. This is "a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology." *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998). As Abraham Lincoln explained, "[t]he patent system . . . added the fuel of interest to the fire of genius." Abraham Lincoln, Second Lecture on Discoveries and Inventions, Address Before the Young Men's Association of Bloomington, Ill. (Feb. 11, 1859), *in* 3 Abraham Lincoln, *The Collected Works of Abraham Lincoln*, at 356, 363 (Roy P. Basler ed., 1953).

The single-entity rule for direct infringement as recently stated by the Federal Circuit undermines the careful balance of interests underlying the patent laws by denying effective protection to patented processes involving steps that can be divided between two or more entities. In *Akamai Technologies v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012), the Federal Circuit held that, "[i]n the context of a method claim, the accused infringer must perform all the steps of the claimed method, either personally or through another acting under his direction or control." *Id.* at 1307. The en banc opinion in *Akamai* elaborates that "direction or control" is not found "[a]bsent an agency relationship between the actors or some equivalent." *Id.*

The single-entity rule creates a loophole that allows two or more parties acting in concert to avoid infringement unless one participant is under the narrowly construed direction or control of the other. Under this standard, anyone can benefit from the use of a patented process and avoid liability by dividing the steps of the patented process among two or more participants through arms-length transactions without any one participant directing or controlling the actions of the other participants. The district court below recognized that the single entity rule leaves a meritorious patentee without an effective remedy for infringement:

> [T]he single entity rule and *BMC*'s interpretation thereof severely limits the protection provided for patents which would otherwise be valid and enforceable. A potential infringer

> seeking to take advantage of a patented process could likely avoid infringement simply by designing its otherwise infringing product in a way that allows customers to decide initially whether to access it. As long as the sale of a product constitutes an arm's length transaction between the customer and the infringing company, which is insufficient to create vicarious liability, the patent holder would likely have no redress against the infringer. This result weakens the policy of providing protection to those who devote the time and resources to develop otherwise novel and patentable methods.

McKesson Info. Solutions LLC v. Epic Sys. Corp., No. CIV 1:06-CV-2965-JTC, 2009 WL 2915778, at *7 (N.D. Ga. Sept. 8, 2009) (citations omitted), *rev'd and remanded*, 692 F.3d 1301 (Fed. Cir. 2012). The lack of an effective remedy for patent infringement in divided infringement cases renders many patents on important technologies virtually unenforceable, weakens the incentive to invest in innovation, and undermines the purpose of the patent laws "[t]o promote the Progress of Science and useful Arts," U.S. Const. art. I, § 8, cl. 8.

II. Claim Drafting Is Not A Solution To The Divided Infringement Problem

Petitioner and its amici have suggested that the problems *Akamai* presents can be solved by

drafting claims from the perspective a single entity. *See, e.g.*, Pet. Br. 45–47; EFF Br. 5–7. The assumption that single-entity claims can protect innovative processes is incorrect and the position that the claim drafter can anticipate all possible schemes that a knowing infringer might employ to circumvent the patent is unreasonable. The claim drafter should be free to draft clams that unambiguously define the invention and not be held prisoner of a formula necessitated by the inadequacy of the single-entity rule for protecting innovation. The problem is not with claim drafting, but with the narrow single-entity rule that denies protection to processes involving steps that can be divided among multiple actors. The single-entity rule for direct infringement under-protects inventions and undermines the incentive to invest in innovation. This fundamental flaw in the single-entity rule cannot be fixed by clever claim drafting.

A. The Role of Patent Claims

The claims of a patent play a central role in the patent system. "The patent laws 'promote the Progress of Science and useful Arts' by rewarding innovation with a temporary monopoly." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 730 (2002) (quoting U.S. Const., art. I, § 8, cl. 8). It is important to the operation of the patent system that the boundaries of the monopoly granted by the patent "be clear." *Id.* Thus, the Patent Act requires that the "specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention." 35 U.S.C.

§ 112(b). The claims both define the scope of the patent owner's monopoly and give notice to the public of what is and is not protected by the patent. The clarity provided by delineating the scope of the patent "enables efficient investment in innovation" and promotes the progress of science. *Festo*, 535 U.S. at 730–31.

Drafting claims that define an invention is a difficult task. The claims must distinguish the invention from the prior art without unduly restricting the patent. Neither an overly broad claim nor an overly restrictive claim will benefit the inventor. A claim drafted too broadly may be held invalid and provide no protection for the inventor. A claim drafted too narrowly provides opportunity for competitors to design around the claim while capturing the benefits of the invention. To serve the public notice function and satisfy the statutory requirement of definiteness, the essential elements should be recited in a clear and straightforward manner.

To avoid the Scylla and Charybdis of too broad and too narrow claims, the claim drafter must understand the invention, reduce the invention to its essential elements, and draft claims that unambiguously describe those essential elements. Drafting claims in this way ensures that the patentee enjoys the full benefit of his invention while providing fair notice to the public of the patent's scope. *Id.* As long as a patent gives fair notice to the public of what is covered by the claims, the courts should enforce the patent against "whoever" infringes it. 35 U.S.C. § 271(a).

B. Single-Entity Claims Are Inadequate to Protect Investment in Innovation

Proponents of the single-entity rule for direct infringement have suggested that "concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party." *BMC*, 498 F.3d at 1381 (citing Mark A. Lemley et al., *Divided Infringement Claims*, AIPLA Q.J. 255, 272–75 (2005)). These proponents support the argument with a few cherry-picked examples of processes that do not represent the full universe of patentable processes. The reality is that "[s]ome inventions may not be susceptible to framing from the perspective of a single actor." U.S. Br. 33.

Collaborative processes of the type at issue in *Akami* inherently involve two or more actors. It is not always possible to draft a claim focused on a single actor that captures all the essential steps of the process and distinguishes the claim from the prior art. Focusing claims on only one actor makes it more difficult to distinguish the invention from the prior art and to satisfy patent law's novelty and non-obviousness requirements. 35 U.S.C. §§ 102, 103. It may be necessary in many cases to recite steps performed by different actors in order to meet those requirements. The difficulty of drafting single-entity claims that satisfy § 102 and § 103, even in the case of collaborative processes, becomes greater as the number of process steps or the number of actors increases. Imagine, for example, the difficulty of

drafting single-entity claims for a process involving six steps and up to three different actors.

Besides collaborative processes of the type at issue in *Akamai*, there are many industrial processes involving steps that can be divided in different ways between parties acting in concert. It is not important to the process who performs the steps. What is important is that the steps are performed. In such cases, a single claim directed to the essential steps of the process without regard to who performs those steps provides protection against all persons acting in concert to perform the process. A single-entity claim does not. For example, assume a process having four essential steps A, B, C and D. If a claim is drafted assuming that a first party performs steps A, B, and C and that a second party performs step D, the inventor is not protected against two persons acting in concert that divide the process steps in a different way. For example, the first party could perform steps A and B and the second party could perform steps C and D. In short, the inventor would need to draft 32 independent claims (16 single-entity claims for each actor) to provide the same protection as the single claim directed to the essential elements of the invention.

The holding in *Metal Film Co. v. Melton Corp.*, 316 F. Supp. 96 (S.D.N.Y 1970), demonstrates the difficulty of relying on single-entity claims for protection of innovative processes. *Metal Film* involved a patented process for making metallized yarns. The process claims of the patent involved essentially four steps: "(1) vacuum depositing metal (usually aluminum) on a transparent plastic web

(usually Mylar), (2) coating the metalized surface of the web with a transparent plastic material in liquid form, (3) drying and curing the coating, and (4) finally slitting the plastic-coated metalized web to form the threads or yarns." *Id.* at 100. The defendants contracted with a third party to perform the first step of the claimed process, vacuum depositing metal onto a Mylar web. *Id.* at 110. The court found that the defendant had infringed the patent although the first step was performed by an independent contractor. *Id.* at 111.

Drafting a claim that focuses on a single entity would not have provided protection for the invention in *Metal Film*. The process in *Metal Film* did not require that the steps be performed by a particular entity. To comply with the single-entity rule, the claim drafter would have had to anticipate how the process steps would be divided and draft a single-entity claim focused on one of the actors based on the anticipated division of the process steps. No matter how the process steps are divided in the single-entity claim, a defendant could divide the process steps in a different way to circumvent the patent while benefitting from the use of the invention.

The single-entity rule forces the claim drafter to draft claims, not to what an inventor "regards as the invention" as the Patent Act requires, 35 U.S.C. § 112(b), but to specific embodiments of the invention. Reliance on single-entity claims focused on a single party to protect investment in innovative processes is therefore a very poor substitute for claims focused on the essential elements of the

invention. As Judge Newman noted, "the presence or absence of infringement should not depend on cleverness or luck to satisfy a malleable single-entity rule." *Akamai*, 692 F.3d at 1325 (Newman, J., dissenting).

C. The Single-Entity Rule Leads to Distortion of The Claim Drafting Process and Undermines The Public Notice Function of The Claims

Drafting claims focused on the essential elements of an invention not only ensures that the inventor enjoys the full benefit of his invention, it also provides fair notice to the public of the patent's scope. Claims that describe each step of a patented process in a clear and straightforward manner enables those seeking to benefit from the use of a claimed process to easily ascertain the scope of the patent monopoly. Persons acting in concert can just as easily determine when their joint actions will result in the performance of each step of the claim. Thus, the public notice function of claims is served when claims recite all the steps of an inventive process in this way.

The single-entity rule for direct infringement leads to distortion of the claim drafting process. The rule makes it more difficult for patent practitioners to draft claims protecting innovative processes. It forces patent practitioners to focus, not on the essential steps of an invention, but rather on the persons performing those actions. Essential steps necessary to define the invention that involve the

activities of parties other than the one that is the focus of the claims will be recited only in an inferential or oblique manner, reducing the clarity of the claims. Such claims may end up as gross caricatures of the invention.

The single-entity rule will also lead to a proliferation in the number of claims in the patent. Patents with large numbers of nuanced claims greatly increase the burden on the public of determining what is and what is not covered by a particular patent.

III. Recognizing Direct Infringement In Situations Where Parties are Acting In Concert Will Better Serve The Constitutional Purposes of The Patent Laws

Protection of an innovative process is best afforded when the claims are focused on the essential steps of the process rather than on the actors. This serves the purpose of promoting innovation by ensuring that inventors are compensated for the use of their invention. This compensation is the "driving force that incentivizes innovation." Stacie L. Greskowiak, Note, *Joint Infringement After* BMC*: The Demise of Process Patents*, 41 Loy. U. Chi. L. J. 351, 358 (2010). Rules of law that deny inventors compensation for use of their inventions would profoundly impact the incentive to innovate. Claims directed to the essential steps will also more clearly define the scope of the patent right and provide notice of what constitutes an infringement. The clear delineation of

the scope of the patent also serves the purposes of promoting innovation while protecting the public.

Concerns that unknowing parties will become ensnared in patent infringement litigation are overstated and do not outweigh the important policy underlying the patent laws. Unknowing infringement is as much a problem for direct infringement cases as it is for joint infringement cases. For example, anyone who has used a BlackBerry to send an e-mail committed direct infringement. *See NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005) (noting direct infringement occurred whenever defendant's customer put system into use). Likewise, at one time, anyone who viewed a GIF image on a computer directly infringed a patent. *See* Paul Festa, *Patent Ending to Redefine Graphic Formats*?, ZDNet (June 9, 2003, 4:35 PDT), http://www.zdnet.com/news/patent-ending-to-redefine-graphic-formats/129804. Despite that fact, there was no explosion of litigation against individual consumers using the graphic format on their personal computers. *Id.* Nor will there be an explosion of litigation if this Court discards of the Federal Circuit's single-entity rule. Further, the law of joint infringement as developed prior to *BMC* protects unknowing and unwitting participants from liability while imposing liability for infringement on those that attempt to benefit from the use of patented processes. *See* Resp'ts Br. 24–27. The innocent party that directly infringes a patent enjoys no such protection.

CONCLUSION

Amicus supports Respondents' argument that Petitioner is liable for direct infringement under 35 U.S.C. § 271(a). Any precedent to the contrary should be reversed or overruled.

Respectfully submitted,

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AMICUS CURIAE BRIEF

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LIMELIGHT NETWORKS, INC.,
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Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF FOR MICROSOFT CORPORATION AS *AMICUS CURIAE* IN SUPPORT OF PETITIONER

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H.R. Rep. No. 82-1923, at 9 (1952) 5

INTEREST OF *AMICUS CURIAE*

This case presents the question whether a defendant can be held liable for inducement of infringement under 35 U.S.C. § 271(b) when no person could be held liable for an act of direct infringement under 35 U.S.C. § 271(a). It arises in the context of so-called "divided infringement" of a method patent, where a defendant (here, petitioner Limelight Networks, Inc.) is accused of performing some steps of the patented method while others (here, Limelight's customers) complete the remaining steps of the method. More generally, this case is about a statutory gap in the patent laws and which branch of government properly may fill it.*

The Federal Circuit recognized that, under longstanding precedents interpreting 35 U.S.C. § 271, "the patentee has no remedy" in situations of divided infringement of a method patent. Pet. App. 3a. The court of appeals saw this as a "doctrinal problem[]" because, on its view of "sound patent policy," a defendant accused of divided infringement is no less "culpable" than a defendant who actually "induce[s] another to perform all the steps of a method claim." *Id.* at 2a, 9a-10a, 29a. So, the Federal Circuit revised its interpretation of Section 271 to make "culpable" divided infringement defendants liable as inducers of infringement under 35 U.S.C. § 271(b).

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* Pursuant to Supreme Court Rule 37.6, *amicus curiae* states that no counsel for any party authored this brief in whole or in part, and that no person or entity other than *amicus curiae* and its counsel made a monetary contribution to the preparation or submission of this brief. Counsel of record for all parties consented to the filing of this *amicus curiae* brief.

Microsoft Corporation's mission is to enable individuals and businesses throughout the world to realize their full potential by creating technology that transforms the way people work, play, and communicate. Microsoft develops, manufactures, licenses, and supports a wide range of software programs and services for many different types of computing devices, including the flagship Windows operating system and the Office suite of productivity applications.

Microsoft holds thousands of patents, which it relies upon to protect its substantial investments in research and development. But it also is frequently accused of infringing all manner of patents, including method patents on theories of "divided infringement." For Microsoft, the patent laws provide the "baseline of free competition," demarcating both its exclusive rights in its numerous inventions and also the spaces where it—and others—are free to operate. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 156 (1989). Microsoft thus has a substantial interest in the content of the patent laws and how courts interpret those laws.

SUMMARY OF THE ARGUMENT

The Federal Circuit's decision to close what it perceived as a loophole in the regime of patent infringement liability set forth in 35 U.S.C. § 271 to capture the conduct of persons it deemed "culpable" is fundamentally flawed and should be reversed.

The Federal Circuit's method of determining who is a "culpable" actor under the patent laws should be rejected. Patent infringement is a statutory tort. Both a patentee's rights and the circumstances under which those rights are violated are defined by statute. A person cannot be "culpable" in an act of

infringement unless he has violated some provision of 35 U.S.C. § 271. And contrary to the view of the court of appeals, there is nothing anomalous—much less "bizarre" (Pet. App. 10a)—about denying a patentee a remedy when there has been no violation of the statute, because it is the violation of the statute that defines the injury. The Federal Circuit erred when it premised its interpretation of Section 271 on its policy-driven belief, untethered from the statute, of when a patentee is injured.

If there is a gap in Section 271's regime of infringement liability, it was not the Federal Circuit's job to fill it. The fact that established common law principles of vicarious liability do not address every situation in which the court of appeals might find a person "culpable," *see* Pet. App. 10a, does not justify a judicial enlargement of the scope of infringement liability. This is all the more true given the substantial, unforeseen consequences likely to result from elimination of the requirement that indirect infringement liability be predicated on the existence of an underlying direct infringer. If there is a "statutory gap," as the Solicitor General has opined, it is the role of Congress—not the courts—to close it, if Congress deems such action to be appropriate.

ARGUMENT

IF DIVIDED INFRINGEMENT IS A PROBLEM, IT CAN BE ADDRESSED ONLY BY CONGRESS—NOT THE FEDERAL CIRCUIT

The decision below reflects the en banc Federal Circuit's effort to resolve what it characterized as "doctrinal problems" that arise "when the acts necessary to give rise to liability for direct infringement are shared between two or more actors." Pet. App.

2a. The court recognized that, in such a case, there can be no liability for direct infringement "[a]bsent an agency relationship between the actors or some equivalent." *Id.* at 6a (citing *Cross Med. Prods. v. Medtronic Sofamor Danek*, 424 F.3d 1293, 1311 (Fed. Cir. 2005)).

While it declined "to revisit" that fundamental limitation on the scope of direct infringement liability "at this time," Pet. App. 6a, the court could see "no reason" to "immunize the inducer from liability for indirect infringement simply because . . . no single defendant has committed all the acts necessary for . . . direct infringement." *Id.* at 9a. Such acts of inducement, the Federal Circuit reasoned, have "precisely the same impact on the patentee" as direct infringement, making the defendant no less "culpable." *Id.* at 9a-10a. "[S]ound patent policy" thus counseled in favor of reinterpreting Section 271 to extend liability for indirect infringement to instances where there is no direct infringer who itself practices all the steps of the claimed method. *Id.* at 3a.

The Federal Circuit erred in concluding that a patentee is "injured" in the absence of direct infringement. And the court of appeals compounded that error when it took it upon itself to close what it perceived to be an undesirable loophole in Congress's statutory regime of liability for patent infringement.

1. Patent infringement is a statutory tort; the public's duties to the patentee and the patentee's remedies in the event of breach both are defined by statute. Because Section 271(a) "defines infringement," *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 342 (1961), a patentee's exclusive rights are violated only when Section 271(a) is violated. *See also* H.R. Rep. No. 82-1923, at

9 (1952) ("Section 271, paragraph (a), is a declaration of what constitutes infringement in the present statute."). And when that statute is not violated, there is nothing remotely anomalous about denying the patentee a remedy. That instead merely reflects the line Congress drew in creating and defining the statutory tort of infringement. It did not provide for relief whenever all of the steps of a patented method are completed. As the Federal Circuit acknowledged, Section 271(a) is violated only when a single person, personally or vicariously, performs all of the steps of the claimed method. *See* Pet. App. 6a (citing *Cross Med. Prods.*, 424 F.3d at 1311).

The Federal Circuit's conclusion that there was no violation of Section 271(a) here should have led immediately to the conclusion that the respondent had not suffered any cognizable injury. But the court's erroneous view that an act of divided infringement constitutes a "plain[] violat[ion]" of a patentee's rights instead led it to seek out a "remedy" for the injury that it perceived. Pet. App. 3a. The absence of a statutory remedy, however, provides no warrant for the Federal Circuit to expand the scope of liability under the patent laws.

2. This Court repeatedly has cautioned lower courts interpreting the patent laws against using novel or expansive statutory constructions to address perceived shortcomings in Congress's statutory scheme for infringement liability. First in *Deepsouth*, and then later in *Microsoft Corporation v. AT&T Corp.*, 550 U.S. 437 (2007), the court of appeals had sought to close perceived loopholes that enabled defendants to evade liability under Section 271. *See AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366, 1371 (Fed. Cir. 2005) (rev'd by 550 U.S. 437)

(explaining the court of appeals' view that reading Section 271 to exclude liability would "subvert the remedial nature of § 271(f), permitting a technical avoidance of the statute"); *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 525 (1972) (quoting the court of appeals' belief that reading Section 271 to exclude liability there would "subvert[] the Constitutional scheme of promoting the Progress of Science and useful Arts by allowing an intrusion on a patentee's rights") (internal quotations omitted). And in each case, this Court reversed the court of appeals, concluding that any liability gap in the patent laws "is properly left for Congress to consider, and to close if it finds such action warranted." *Microsoft*, 550 U.S. at 452; *see also Deepsouth*, 406 U.S. at 532 ("insist[ing] on a clear congressional indication of intent to extend the patent privilege").

That allocation of responsibility is particularly appropriate in the patent field given "the risk that the specialized court" that hears patent cases "may develop an institutional bias." *Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 839 (2001) (Stevens, J., concurring). Indeed, over the last several years, when the Federal Circuit's "institutional bias" has surfaced, it often enough has resulted in interpretations of the patent laws that augment the power and exclusive rights of patents by expanding the scope of infringement liability. *See, e.g., Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S.Ct. 2060, 2068 (2011) (rejecting the Federal Circuit's view that "deliberate indifference to a known risk that a patent exists" is sufficient to meet the knowledge requirement for liability under Section 271(b)); *Microsoft Corporation v. AT&T Corp.*, 550 U.S. 437 (2007) (reversing the Federal Circuit's decision that computer software constituted a "compo-

nent" within the meaning of Section 271(f)). And on other occasions it has enhanced the power of patents by diluting statutory requirements for patent validity. *See, e.g.*, *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 402 (2007) (holding that the Federal Circuit's rigid application of its "teaching, suggestion, or motivation" test for obviousness under 35 U.S.C. § 103 resulted in a flawed, overly "narrow conception of the obviousness inquiry"); *Biosig Instuments, Inc. v. Nautilus, Inc.*, 715 F.3d 891, 898 (Fed. Cir. 2013) (cert. granted Jan. 10, 2014) (holding that a claim is indefinite under 35 U.S.C. § 112 "only when it is not amenable to construction or insolubly ambiguous") (internal quotations omitted).

This tendency in the specialized court to enlarge the power of patents contravenes the precept that the constitutional grant concerning patents is not merely "a grant of power," but also "a limitation." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 5 (1966). That "limitation" precludes "enlarge[ment] [of] the patent monopoly without regard to the innovation, advancement or social benefit gained thereby." *Graham*, 383 U.S. at 5-6; *see also LabCorp of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 127 (2006) (Breyer, J., dissenting) ("Patent law seeks to avoid the dangers of overprotection just as surely as it seeks to avoid the diminished incentive to invent that underprotection can threaten."). For this reason, where a party is urging—as respondent does here—that "the beachhead of privilege [under 35 U.S.C. § 271] is wider, and the area of public use narrower, than courts had previously thought," this Court has required that it be supported by "a clear and certain signal from Congress." *Deepsouth*, 406 U.S. at 531. This is because the question whether an enlargement of infringement

liability will support, or instead impede, innovation is a quintessential policy judgment of the type that our Constitution appropriately allocates to the Branch that is most politically accountable to the people—Congress.

The court of appeals seemed to deny that it was enlarging the power of patents or effecting any "change in the law" of induced infringement. Pet. App. 28a. But plainly it had. The Federal Circuit pointed to no decision of any court before or after the codification of the 1952 Patent Act that had held a defendant liable for induced infringement in the absence of direct infringement of the patent. The court of appeals instead suggested one of its 1983 decisions had established a special rule for method claims under which performance of less than all of the steps of a patented method potentially could make one liable for contributory infringement under Section 271(c). Pet App. at 28a (citing *Fromson v. Advance Offshore Plate, Inc.*, 720 F.2d 1565 (Fed. Cir. 1983)); *but see Eolas Techs. v. Microsoft Corp.*, 399 F.3d 1325, 1339 (Fed. Cir. 2005) ("This court cannot construct a principled reason for treating process inventions different than structural products.")

But in that—and indeed, every case involving contributory infringement of a method—it was not the performance of some of the steps of the method that triggered potential liability for indirect infringement, but the rather the sale of material for use in the patented process. *See Fromson*, 720 F.2d at 1567 ("Advance manufactured and sold 'wipe-on' plates; Advance cannot be liable for direct infringement with respect to those plates but could be liable for contributory infringement"). That is because Section 271(c) imposes liability for contributory in-

fringement only when one offers, sells, or imports a physical item—"a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process." 35 U.S.C. § 271(c). Section 271(a) does not provide a standard of infringement unique to method patents; to the contrary, Section 271(a) defines the acts of infringement of "any patented invention." 35 U.S.C. § 271(a). The Federal Circuit's suggestion that its decision here is a return to a "pre-existing regime with respect to induced infringement of method claims," Pet App. 28a, thus lacks support.

In fact, the change in the law here is quite substantial. Under the decision below, a defendant can be liable for the actions of a multitude of unrelated actors each performing only a small portion of the patented method at various times and places. This is a significant expansion of the rights granted to the patentee under Section 271. Yet, there is nothing even remotely approaching "clear and certain signal" from Congress indicating its intent to exclude method claims from the rule requiring a direct infringer as a prerequisite to liability under Section 271(b). *See Deepsouth*, 406 U.S. at 531.

All the court of appeals could say is that "it is unlikely that Congress intended to endorse the 'single entity rule,' at least for purposes of induced infringement." Pet. App. 29a. That assessment of legislative probabilities seemed to have been impelled by the court's belief that Congress would not have created a patent system that allows persons to "knowingly sidestep infringement liability," and that "permit[s] ready evasion of valid method claims." *Id.* But, as noted, a court cannot lightly assume that Congress intended to give method claims (and meth-

od claims alone) a broader scope, because the enlargement of infringement liability necessarily impinges on the freedom of the public to operate. Indeed, the implicit encouragement the patent monopoly offers the public to design around a patent—to find a new, and perhaps more efficient or more satisfying way, of accomplishing an objective—is as much a part of the "patent system's incentive to creative effort," as the reward of the limited monopoly is to the inventor. *See Bonito Boats, Inc.*, 489 U.S. at 156-57. The Federal Circuit thus erred in taking as an interpretive guide-post its belief that patent laws should not permit patents to be "eva[ded]." Pet. App. 29a.

* * *

The Solicitor General has opined that the issue concerning divided infringement of method claims is caused by a "statutory gap," which is to say the fact that Congress did not make a tort the type of divided infringement alleged here. Br. for the United States as Amicus Curiae, at 10. Reasonable persons can debate whether that gap is "unfortunate," as the Solicitor General has suggested, *id.*, or entirely appropriate, but it cannot be disputed that such a gap only can be addressed by Congress. In the absence of congressional action, the so-called "problem of divided infringement" (Pet. App. 2a) in method patent cases should be addressed in accordance with the same vicarious liability principles that generally apply to all tort actions.

As this Court's precedent reflects, patent law is not an island separate from the main of American tort law jurisprudence. *See eBay Inc. v. Merc Exchange, L.L.C.*, 547 U.S. 388, 391 (2006) (rejecting the Federal Circuit's presumption in favor of injunc-

tive relief in patent infringement cases as "a major departure from the long tradition of equity practice [that] should not be lightly inferred"); *Global-Tech*, 131 S. Ct. at 2071 (correcting the active inducement test applied by the Federal Circuit because it did not accord with the common law doctrine of "willful blindness"). The Federal Circuit should not have departed from these established principles.

CONCLUSION

The decision of the Federal Circuit should be reversed. In doing so, this Court should confirm that active inducement under Section 271(b), like contributory infringement under Section 271(c), requires a direct infringer and that in instances of so-called "divided infringement," liability for infringement is limited to those instances where the performance of every step of the patented method can be attributed to at least one party based on established common law principles of vicarious liability.

Respectfully submitted.

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AMICUS CURIAE BRIEF

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In the Supreme Court of the United States

AKAMAI TECHNOLOGIES, INC.,

Petitioner,

v.

LIMELIGHT NETWORKS,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF AMICI CURIAE MYRIAD GENETICS, INC. AND GENOMIC HEALTH, INC. IN SUPPORT OF RESPONDENT

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STATEMENT OF RELATED CASES

On April 20, 2011, the Court granted Akamai's request for rehearing en banc. (*See* Order of April 20, 2011, Granting En Banc Review, Case Nos. 2009-1372, -1380, -1416, -1417.) On May 26, 2011, the Court granted rehearing *en banc* in *McKesson Technologies, Inc. v. Epic Systems Corp.*, No. 2010-1291. (See Order of May 26, 2011, Granting *En Banc* Review, Case No. 2010-1291.) Both cases involve issues of joint infringement. Accordingly, the *McKesson* case may be affected by this appeal.

Myriad Genetics, Inc. and Genomic Health, Inc. respectfully submit this brief as *amici curiae* in support of Respondent.

[1] Pursuant to Rule 37.6, counsel for amici states that no counsel for a party authored this brief in whole or in part, and that no person other than amicus, its members, or its counsel made a monetary contribution to the preparation or submission of this brief. The parties have filed letters of consent for amicus briefs with the Court.

INTEREST OF THE AMICI CURIAE

Myriad Genetics, Inc. is a pioneer and world leader in the new field of personalized medicine. Myriad's currently marketed personalized medicine products include innovative molecular diagnostic tests such as: Myriad myRisk™ Hereditary Cancer testing (for genetic predisposition to a variety of cancers); BRAC*Analysis*® testing (for genetic predisposition to breast and ovarian cancer); COLARIS® and COLARIS *AP*® testing (for genetic predisposition to colorectal, uterine and other cancers); Prolaris® (to predict a prostate cancer patient's risk of recurrence and disease-specific death); Myriad myPath™ Melanoma (to clarify the diagnosis of melanoma in ambiguous lesions); and Myriad myPlan™ Lung Cancer (to predict a lung cancer patient's risk of disease-specific death). Myriad's products are now used by more than 40,000 oncologists and Ob/Gyn physicians in the United States in the care of their patients.

Genomic Health, Inc. is a personalized medicine company committed to improving the quality of cancer treatment decisions through the research, development and commercialization of genomic-based clinical laboratory services. To that end, the company conducts sophisticated genomic research to develop clinically-validated molecular diagnostics which provide individualized information on response to certain types of therapy, as well as the likelihood of disease recurrence. Genomic Health's currently markets the Onco*type* DX® Breast, Colon and Prostate Assays. These diagnostic technologies generate information that healthcare providers and patients can use in making treatment decisions.

Amici's past innovation and commercial success, as well as the patients whose lives have been im-

proved or saved by *Amici*'s products, have benefited greatly from a strong U.S. patent system. Banking on the prospect of continuing strong patent protection, *Amici* are making substantial investment in research and development and working diligently to prepare the next generation of personalized medicine products. *Amici* scientists analyze thousands of specimens, searching the human body's biochemicals (DNA, RNA, proteins, and metabolites) to identify biomarkers that can be applied in methods to diagnose disease characters and drug response. Applications of biomarkers are key to *Amici*'s development of new products, helping *Amici* deliver the promise of personalized medicine in preventing diseases, optimizing disease treatment, improving lives, and reducing healthcare costs.

Patent claims to diagnostic uses of such biomarkers and adequate enforcement of such patent claims are critical for the fledgling industry of personalized medicine. Very often, however, practical realities of molecular diagnostics and the current application of subject matter eligibility under 35 U.S.C. § 101 require that these patent claims be presented in the form of method claims that may often be easily divided between two or more parties.

Amici, like all other innovators and especially those in the molecular diagnostics industry, have an interest in ensuring that the patent system is not circumvented and investment in personalized medicine is not dis-incentivized by would-be infringers simply dividing the steps of such diagnostic method claims among multiple parties. Otherwise, there will not be adequate patent protection for future personalized medicine products, and the significant invest-

ment by *Amici* and others in research and development will be discouraged.

SUMMARY OF THE ARGUMENT

Personalized medicine depends on molecular diagnostic tests to obtain information on a patient's genetic and molecular markers and to use and manipulate this information to diagnose clinically useful disease characters. This new field holds enormous promise for improving people's lives and reducing healthcare cost at each stage of patient care, including helping prevent disease by identifying which patients are at increased risk and determining the best course of treatment (*e.g.*, deciding which drug to give, deciding which surgical or monitoring procedure is appropriate, etc.).

The significant investment and substantial risk involved in the discovery, development and implementation of personalized medicine products require strong patent protection. Much like the drug industry, personalized medicine relies on expensive and risky clinical trials to decipher and confirm which biomarkers may be used in what ways to diagnose specific disease characters.

Claims to biomarkers *per se*, *e.g.*, isolated genomic nucleic acids or proteins, are frequently unavailable because such patent claims are ineligible for patenting as products of nature. Thus, claims to specific *applications* of such biomarkers, including diagnostic uses (*e.g.*, applications of correlations between such biomarkers and disease characteristics), are very often the only patent claims available to protect adequately the large investment needed to bring a personalized medicine product to market.

In practice, such diagnostic use claims are presented in the form of method claims including two broad categories of steps: steps of measuring bi-

omarkers in a laboratory assay on one hand and, on the other, steps of applying the laboratory result (*e.g.*, diagnosing a disease character based on an application of the detected biomarker and/or treating the patient in view of the diagnosis).

These two categories of steps may often be easily divided between two or more parties, making divided infringement a serious issue. Without much-needed relief from the Federal Circuit's *en banc* decision in this case, patent applicants in personalized medicine are challenged to navigate between patent eligibility under § 101 (*e.g.*, *Bilski*, *Mayo*, *AMP*) on the one hand and divided infringement (*e.g.*, *BMC Resources*, *Muniauction*, etc.) on the other. *Amici* submit this brief primarily to draw the Court's attention to the interplay between these two areas of patent law.

Although divided infringement jurisprudence is driving forward almost exclusively in business method and software patents, its greatest impact will likely be felt in a very different area: personalized medicine. Reversing the Federal Circuit's *en banc* decision in this case could be devastating to personalized medicine.

Before the *en banc* decision in this case, the Federal Circuit's strict rule required that all steps of a method claim be performed by one party (or multiple parties strictly as agent of a single party) in order for any party to be held liable for infringement. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 629 F.3d 1311, 1318 (Fed. Cir. 2010) ("*Akamai I*"). This prior rule encourages collusion among collaborating parties to escape infringement liability. It further undermines a wide swath of method patent claims in the field of personalized medicine, as well as many

other fields, and significantly weakens the U.S. patent system.

The Federal Circuit properly rejected its previous approach in favor of a better rule for analyzing potential infringement of method claims by multiple parties: A party can be held liable for inducing infringement if it can be shown that (1) it knew of a particular patent, (2) it induced the performance by a third party of one or more steps of the method claimed in the patent, and (3) those steps performed by the third party and combined with activities of the first party complete the claimed method. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1318 (Fed. Cir. 2012) ("*Akamai II*").

Akamai II's rule allowing liability for induced infringement is indeed better than *Akamai I*, under which there could be no infringement under any theory. Better still is a rule that permits liability for direct infringement by multiple parties acting in a coordinated way.

Either rule discourages would-be free-riders from unfairly gaming the patent system, while encouraging legitimate design-around and fair competition. If the rule endorsed by the *en banc* Federal Circuit on divided infringement is not upheld or even strengthened by this Court, such a decision will seriously harm the burgeoning field of personalized medicine.

ARGUMENT

I. Personalized Medicine Improves and Extends Life While Lowering Healthcare Costs By Correlating Molecular Biomarkers to Clinically Useful Disease Characters

Personalized medicine depends on diagnostic tests to obtain information on a patient's molecular biomarkers (gene sequence variations, gene or protein expression levels, metabolites, etc.) and using or applying this information to diagnose particular disease characters (*e.g.*, specific disease risk, presence or absence of disease, prognosis, response to particular drug therapies, etc.). Based on this information, preventive measures or treatment regimens can be applied to the right patient at the right time and in the right amount.

Already, a number of personalized medicine products are widely used, exemplifying the current value and future promise of personalized medicine in improving quality of life and reducing costs. A well-known example of a widely available molecular diagnostic is HER2 testing, which predicts a patient's response to the breast cancer drug Herceptin®. Patients whose tumors overexpress HER2 show dramatic response to treatment with Herceptin® while patients whose tumors do not overexpress HER2 show little or no benefit. While Herceptin is a powerful anti-cancer agent, there are drawbacks to the drug: Herceptin® costs over $50,000 a year and can cause severe side effects including cardiac complications and death in some patients. *See* Hillner & Smith, *Do the Large Benefits Justify the Large Costs of Adjuvant Breast Cancer Trastuzumab*? 25 J. CLINICAL ONCOLOGY 611, 612 (2007); Herceptin® Package Insert, *available at*

http://www.accessdata.fda.gov/drugsatfda_docs/label/2014/103792s5311lbl.pdf (last visited Mar. 30, 2014). Thus, a simple diagnostic test for HER2 overexpression can spare a woman both enormous cost and potential suffering if her tumor's biology indicates the drug will not work. *See generally* Dendukuri et al., *Testing for HER2-positive Breast Cancer: A Systematic Review and Cost-effectiveness Analysis*, 176 CAN. MED. ASS'N J. 1429 (2007).

More importantly, because treatment with an ineffective drug can erode part of a patient's window of opportunity for effective treatment, drug response tests such as the HER2 test can help physicians and patients make the right treatment decision at the right time. *See id.* Indeed, given the commonly low rate of drug efficacy in many medical fields,[1] there is a clear need for additional molecular diagnostic tests predicting a patient's response to many other drugs.

More recent examples of personalized medicine products developed by *Amici* that save and improve patient lives, but depend on strong patents, include:

- *Amicus* Myriad's Prolaris® testing, which can help a patient and his doctor decide whether his prostate cancer is aggressive enough to warrant surgery, and its significant side effects and costs, or is indolent enough to warrant active surveillance.[2]

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[1] Selected major drugs are effective in 50% of rheumatoid arthritis, 30% of Alzheimer's, and 25% of cancer patients. Spear *et al., Clinical Application of Pharmacogenetics*, 7 TRENDS MOLECULAR MED. 201, 202 (2001)

[2] *The effect of cell cycle progression (CCP) score on treatment decisions in prostate cancer: Results of an ongoing registry trial*, American Society of Clinical Oncologists, 2014 Genitourinary

- *Amicus* Genomic Health's Oncotype DX Breast Cancer Assay individualizes a patient's treatment planning by predicting the likelihood that patient with early stage invasive breast cancer will respond to chemotherapy as well as experience a cancer recurrence. This test has been incorporated into multiple clinical guidelines and has been demonstrated to identify the small percentage of women who will benefit from chemotherapy, allowing those who will not to avoid serious side effects, while at the same time decrease costs for our health care system.

These are just a handful of products that illustrate personalized medicine's potential. Indeed, personalized medicine has been touted as one of the promising solutions to the current crisis in our healthcare system. *See* Personalized Medicine Coalition, *The Case for Personalized Medicine*, 4-6, *available at* http://www.personalizedmedicinecoalition.org/sites/default/files/files/Case_for_PM_3rd_edition.pdf (last visited Mar. 30, 2014).

II. Strong Patent Protection is Necessary to Incentivize and Reward the Massive Investment Required to Research and Develop Personalized Medicine Products

A basic understanding of the challenges faced by the personalized medicine industry shows that strong, enforceable patents claiming new diagnostic

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Cancers Symposium, Abstract #277 (*available at* http://meetinglibrary.asco.org/content/123761-142) (last visited March 31, 2014).

uses and applications of biomarkers are vital to its full emergence and continued viability.

Much like in the pharmaceutical industry, research and development in personalized medicine are extremely costly and offer a very low rate of success.[3] After generating data on biomarkers from hundreds or thousands of carefully selected patient samples, each having expertly collected clinical information, at a cost of hundreds or thousands of dollars per sample, scientists must sift through millions of data points in hopes of establishing a statistically significant connection between one or more of these markers and a particular clinical feature.[4]

Discovering a correlation is not the finish line, however; extensive additional clinical trials are required to validate the clinical utility of the new diagnostic method.[5] Even after such significant time and

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[3] *See generally*, Kling, *Diagnosis or Drug? Will Pharmaceutical Companies or Diagnostics Manufacturers Earn More from Personalized Medicine?*, 8 EMBO Rep. 903 (2007)

[4] The National Institutes of Health recently estimated the cost of a single genome-wide association (*i.e.*, correlation) study to be at least $6M, not counting the cost of patient samples. Press Release, NIH, Two NIH Initiatives Launch Intensive Efforts to Determine Genetic and Environmental Roots of Common Diseases (February 8, 2006), *available at* http://www.genome.gov/17516707 (last visited Mar. 30, 2014).

[5] For example, researchers at Genomic Health reportedly spent well over 100 million dollars and 7 years, including numerous clinical studies involving hundreds of patients, in bringing Onco*Type* DX® to market. *See also*, Department of Health and Human Services, *Personalized Health Care: Pioneers, Partnerships, Progress*, 84 (2008), *available at* http://medicalcenter.osu.edu/pdfs/cphc/USDHHS_White_Paper_PHC.pdf (last visited Mar. 30, 2014).

capital outlays, success is not guaranteed and failures far outnumber successes. Just like many drugs that were successful in a phase II clinical trial will fail in a larger phase III trial, similarly many molecular diagnostic products with promising results in a small discovery study will fail to show meaningful predictive value in a larger validation study.

Ironically, personalized medicine, where patents are under fire, is inherently riskier than pharmaceuticals, where the value of patents is not seriously questioned, for two reasons. First, molecular diagnostic testing is often a one-time event—*e.g.*, one germline genomic test determines whether a patient has a genetic predisposition to disease. Pharmaceutical products, on the other hand, typically have "repeat" customers taking a daily dose for months or years. Second, laboratory developed molecular diagnostic tests do not benefit from a pharmaceutical-like regulatory framework that makes relatively narrow patent protection sufficient. Copyists can make trivial modifications to an innovator's test and still potentially piggyback on the innovator's large and risky investment in clinical validation studies. This is not possible under the Hatch-Waxman framework for drugs, where a copyist must choose between exactly copying the innovator's drug (which means the copyist need not perform its own clinical trials but will also infringe a very narrow patent focused on the innovator's exact drug) and making even trivial changes to the innovator's chemical structure—which means the copyist might design around a narrow patent but might be required to perform its own expensive trials. Thus, whereas narrow patents will often be sufficient to protect a large investment in a drug, personalized medicine tests need broader patent protection.

Importantly, *Amici* are not asking for a special rule to benefit personalized medicine. *Amici* instead merely urge this Court to not establish an unfair rule driven by one industry—computer software—to enable ready infringement of patents in another.

III. Restricting Liability for Dividing Infringement Threatens the Patent-Fueled Foundation of Personalized Medicine

The Federal Circuit's *en banc* decision in this case correctly reversed several previous Federal Circuit decisions on so-called "divided infringement" that had created a wide loophole for would-be infringers. This Court should affirm or even strengthen the *Akamai II* decision because this will set up a fair, workable rule that balances concerns about over-breadth and worries about dis-incentivizing innovation better than the *Akamai I* decision and its predecessors.

The Federal Circuit's previous jurisprudence on divided infringement developed largely in the realm business methods and computer software and systems. *See, e.g.*, *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007; *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008); *Leader Techs., Inc. v. Facebook, Inc.*, 770 F. Supp. 2d 686 (D. Del. 2011); *Inv. Tech. Group, Inc. v. Liquidnet Holdings, Inc.*, 759 F. Supp. 2d 387 (S.D.N.Y. 2010). The present case, involving content delivery for the Internet, is in line with this trend. But while severely limited liability for divided infringement set forth in these cases is problematic and unfair in these fields, *McKesson Techs. Inc. v. Epic Sys. Corp.*, No. 2010-1291, 2011 U.S. App. LEXIS 7531, at *17-*18 (Fed. Cir. Apr. 12, 2011) (Newman, J., dissenting), it will be devastating in personalized medicine. This is

because important patent claims in personalized medicine, especially following this Court's recent decisions on patent eligibility under 35 U.S.C. § 101 and the PTO's very broad reading of those decisions, typically take the form of method claims including steps that can be performed by multiple parties among whom no agency relationship or contractual obligation is needed.

A. The Interplay of Patent Eligibility and Severely Limited Liability for Divided Infringement Is Particularly Problematic for Personalized Medicine

Personalized medicine depends on molecular diagnostic tests, which typically are diagnostic applications of correlations between specific molecular markers and specific disease characters. After this Court's recent decision in *AMP v. Myriad*, claims to the biomarkers themselves in isolated form may be unavailable. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2120 (2013). Under the Patent Office's current overly broad interpretation of the *AMP* decision, even specific, novel laboratory tools designed by scientists to test for those biomarkers may be ineligible for patenting.[6] Depending on this Court's decision in the co-pending case of *Alice Corp. Pty. Ltd., v. CLS Bank International*, Docket No. 13-298, claims to laboratory systems for measuring and interpreting these biomarkers may be subject to further restriction.

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[6] *Available at* http://www.uspto.gov/patents/law/exam/myriad-mayo_guidance.pdf (last visited Mar. 28, 2014). Until these examination guidelines are ruled on by the courts, which may well take years, patent examiners will apply them with the force of law to exclude large swaths of patentable subject.

Thus, in personalized medicine products, a primary patent that gets over the § 101 hurdle is a method of applying new knowledge about a biomarker or group of biomarkers to produce a new diagnostic conclusion. Yet under this Court's recent decision in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), and the Patent Office's current, expansive interpretation of that decision, patentees must include additional steps in diagnostic methods in order to make those method claims eligible for patenting. For example, in *Mayo*, the Court held invalid a claim that recited administering a drug and testing for metabolites of that drug, and then informed doctors of the clinical significance of the results of that test. *Mayo*, 132 S. Ct. at 1297-98. The Court noted that the claims did not require a step of acting on the clinical significance of the test (*e.g.*, adjusting the drug dose if the metabolite levels are too high in the patient's blood), *id.* at 1296, suggesting that such an additional step may have made the claim eligible for patenting. In *Amici*'s practical experience, patent examiners often apply this precise thinking, requiring just such a step to finalize a diagnostic method claim under § 101.

Setting up this claim structure as required for threshold eligibility for patenting, when paired with a restrictive rule of liability for divided infringement, puts personalized medicine patent applicants in a challenging position. The new rules of patent eligibility require diagnostic method claims to include two general categories of steps: (1) detecting or measuring one or more biomarkers in a biological sample (*e.g.*, testing a patient sample to see if HER2 levels are higher than expected) and (2) acting on the information gained by the measurement (*e.g.*, administering Herceptin if HER2 levels are high). But the-

se two activities may easily be, and in the normal practice of medicine often are, divided between separate parties with at most an arms-length contractual relationship (*e.g.*, a doctor ordering a test from an independent laboratory and then acting on the result). Warren & Fang, *Biotechnology Patent Validity in Jeopardy*, GENETIC ENGINEERING NEWS: LEGAL AFFAIRS (Oct 1, 2010, Vol. 30, No. 17) (*available at* http://www.genengnews.com/gen-articles/biotechnology-patent-validity-in-jeopardy/3421/). In fact, the first category is often further split in patent claims into two sub-categories: (a) physically measuring biomarkers in a laboratory assay and (b) using informatics to combine these measurements into a score that can be used to statistically predict some particular clinical characteristic like drug response.

Thus, the typical personalized medicine paradigm is as follows: A diagnostic testing laboratory markets a test to a physician, encouraging the doctor to order the test (the step(s) of measuring biomarkers). The lab then conducts these measuring steps (*e.g.*, testing a patient sample for high levels of HER2) and, optionally, guides the physician on how to interpret the results to reach some useful diagnostic conclusion (*e.g.*, "Based on HER2 levels detected in the sample, the patient will/will not respond to Herceptin®") or even to take appropriate further actions according to the test result (*e.g.*, "Based on HER2 levels detected in the sample, administering Herceptin® is recommended"). The physician then acts, independent of the lab, to select and administer a treatment regimen to the patient based on the test result. A rule requiring one party to independently complete all steps of a patented method would in

practice exempt such activities from patent protection.

B. The Former Rule Exalted Form Over Substance, Forced Innovators into an Impossible Dilemma and Provided a Ready Loophole for Would-Be Infringers

The problem in the present case is that previous Federal Circuit case law in the *Akamai I* line held that "when two entities collaborate to infringe a patent, such that one performs some steps of the claim and the other performs the other steps, there cannot be any infringement, on any theory, unless one entity 'controls or directs' the activity of the other." *Golden Hour Data Sys. v. emsCharts, Inc.*, 614 F.3d 1367, 1382 (Fed. Cir. 2010) (Newman, J., dissenting). In the core paradigm of personalized medicine outlined above, however, a single party rarely performs all steps that are likely required by recent developments in the law of patent eligibility. Nor is there an agency or "mastermind" relationship between the parties—the doctor orders the test and the lab returns the result in an arm's length transaction.

Under the *Akamai I* rule, which this Court should reject, seemingly the only way to prove liability is for the infringing parties to enter a relationship that is unlikely to exist in practice and which, for savvy parties, is easy to avoid. The overturned Federal Circuit decisions refused to find divided infringement liability in the face of close relationships that fall short of a principal's control over an agent. *McKesson*, 2011 U.S. App. LEXIS 7531, at *17 (Newman, J., dissenting) ("Some recent [decisions hold] that neither collaboration nor joint action nor facilitation nor authorization nor invitation can overcome the immutable barrier to infringement when all

of the participating entities are not under the 'control or direction' of a mastermind infringer."). In *Golden Hour*, for example, the Court found no joint infringement despite the fact the accused infringers "formed a strategic partnership, enabled their two programs to work together, and collaborated to sell the two programs as a unit." *Golden Hour*, 614 F.3d at 1382 (Newman, J., dissenting); *see also Cross Med. Prods. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311-2 (Fed. Cir. 2005) (accused infringer's employees attended surgery to show surgeons how to assemble infringing device).

Courts have responded to complaints about unfair outcomes and potentially disastrous impact under the restrictive divided infringement rule with a simple refrain: "Draft better claims." *See, e.g., BMC Res.*, 498 F.3d at 1381 ("The concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party. [...] The steps of the claim might have featured references to a single party's supplying or receiving each element of the claimed process."); *McKesson*, 2011 U.S. App. LEXIS 7531, at *14. As discussed above, however, in the field of personalized medicine this advice rings particularly hollow as pressures from other areas of the law make such "better claims" practically impossible.[7]

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[7] Even if there were no problematic interplay of § 101 eligibility and divided infringement liability, the former limits on divided infringement liability would still encourage parties to simply divide the steps of any process in an arm's length transaction in order to escape infringement liability. Virtually any method with more than one step can be split up between multiple actors

The result is a dilemma for those seeking to protect their risky, expensive and valuable inventions: Either languish at the patent office wrestling with the current law of patent eligibility, or comply with the Patent Office's interpretation of patent eligibility and receive a patent claim that can be readily practiced without fear of liability under an unreasonably restrictive rule for divided infringement. If this Court does not affirm the Federal Circuit's en banc decision in Akamai II, it will in effect result in the "removal of interactive methods [such as personalized medicine methods] from the purview of the patent system." *McKesson*, 2011 U.S. App. LEXIS 7531, at *20 (Newman, J., dissenting).

C. The Federal Circuit's *En Banc* Rule Should at Least Be Affirmed, or in the Alternative Improved, by the Court

Instead of requiring patentees to choose between these undesirable extremes, the *Akamai II* rule strikes a reasonable compromise and is carefully balanced to assign liability only to those parties for whom it is proper while not allowing easy circumvention of patents. For instance, a party with no knowledge of another party's actions in completing a method claim should not be subject to liability. *BMC Res.*, 498 F.3d at 1381. However, if a first party asks, orders, or otherwise *knowingly causes* a second party to perform certain actions or has reason to believe his request will result in the second party performing these actions, and the second party's actions complete a claimed method when combined with those of the first party, liability should attach.

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in a way that avoids liability under the former rule's requirement of strict agency or control.

The Court should at least affirm *Akamai II*'s induced infringement rule under § 271(b) or, preferably, the Court should further allow for direct infringement liability under § 271(a). *Akamai II* found liability under § 271(b) for induced infringement only and declined to find liability under § 271(a) for direct infringement. *Akamai II*, 692 F.3d at 1307. This is better than the former state of things, under which "there cannot be any infringement, on any theory..." for divided infringement. *Golden Hour*, 614 F.3d at 1382 (Newman, J., dissenting). An even better rule, however, is that urged by Respondent and numerous *amici*: Whenever a first party performing one or more steps of a method claim knowingly causes one or more other parties to perform the rest of the steps of the same method claim, or when two or more parties act in a concerted manner to perform all steps of a method claim, equity requires that the first party or the parties acting in concert be found liable for patent infringement. Limiting divided infringement liability to induced infringement is unduly narrow under the increasingly difficult burden of proving inducement under § 271(b). *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011) ("[W]e now hold that induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement").

Some have expressed concerns over potentially turning innocent end consumers into infringers. First, end-consumers are not sued in practice; the commercial actor is invariably the target of suit. *See, e.g.*, *McKesson*, 2011 U.S. App. LEXIS 7531 (software provider); Akamai II, 692 F.3d 1311 (competing data service provider); *Golden Hour*, 614 F.3d 1367 (software providers); *BMC Res.*, 498 F.3d 1373 (debit transaction network provider); *Muniauction*, 532

F.3d 1318 (internet auction provider); and *Cross Med. Prods.*, 424 F.3d 1293 (medical device company employees). This fact of companies not suing their end-users is even clearer in personalized medicine, where there is little incentive to sue doctors or patients (*e.g.*, no damages) and strong incentives toward "rational forbearance" (*e.g.*, greater dissemination of technology, not suing one's customers, etc.). Brief of *Amici Curiae* Roche Molecular Systems, Inc. et al., *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012). Parties raising this red-herring are asking the Court to fashion a rule that exalts form-over-substance and significantly weakens the patent system, all in the name of protecting consumers who were never threatened.

Second, liability for divided infringement, whether direct or induced, will require a level of knowledge and sophistication that few if any consumers will possess. Direct infringement liability should only attach when the accused infringer knows or has reason to know that the actions of the second party will complete the claimed method. It is difficult to imagine unwary consumers being dragged into court under this rule.

If the Court affirms the *Akamai II* decision only on the ground of induced infringement, liability for divided infringement for consumers will be even less likely. A patentee will need to pass the ever rising bar of induced infringement under 35 U.S.C. § 271(b), which the Federal Circuit appears to interpret as requiring knowledge of the patent in a divided infringement context. *Akamai II*, 692 F.3d at 1308 (citing *Global-Tech Appliances*, 131 S. Ct. at 2068). No unwitting end consumer should fall into this category.

The rule applied in *Akamai II* should be affirmed or even strengthened by this Court to discourage collusion, prevent unfair results, and stimulate investment and innovation in personalized medicine and beyond.

CONCLUSION

For the reasons stated above, the decision of the appeals court should be affirmed.

Respectfully submitted,

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Petitioner,

v.

AKAMAI TECHNOLOGIES, INC. and
MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Respondents.

**On Writ Of Certiorari To The
United States Court Of Appeals
For The Federal Circuit**

AMICUS CURIAE BRIEF OF NEWEGG AND L.L. BEAN IN SUPPORT OF PETITIONER

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INTEREST OF *AMICI CURIAE*

Amici Curiae Newegg, Inc. and L.L. Bean, Inc. (collectively, "Newegg") submit this brief in support of Petitioner.* According to *Internet Retailer*, Newegg is the fourteenth largest Internet retailer in the country, and the third largest web-only retailer in the country, with estimated annual sales of $2.8 billion. Internet Retailer, *Top 500 Guide*, 115 (2013); *see also id.* at 130 (Internet Retailer ranks L.L. Bean as 29th largest Internet retailer, with $1.12 billion in online sales). With that high profile comes patent litigation. Newegg and L.L. Bean have been repeatedly sued for patent infringement, not based on the features of the thousands of products and services they sell, but rather based on the fact that they sell their products and services on the Internet.

Under the new rule announced by the Federal Circuit, Newegg can be sued for induced infringement when they allegedly perform several steps of a patent claim by operating their websites, and their customers or potential customers allegedly perform one of the steps of the patent claim on their own computers or smartphones. Thus, even though no one person or

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* In accordance with S. Ct. R. 37.3(a), all parties have consented to the filing of this brief. The Petitioner filed a consent letter with the Clerk. The Respondents consented by email to the filing of this brief. Pursuant to S. Ct. R. 37.6, counsel for *Amici* state that no counsel for a party authored this brief in whole or in part, and no person or entity other than *Amici* or its counsel made a monetary contribution to the preparation or submission of this brief.

entity, including Newegg, directly infringes the patent, Newegg as the deep-pocketed defendant can – and will – still be sued for patent infringement for "inducing" someone it does not control to take action that does not itself infringe the patent.

Since many e-commerce patent lawsuits concern allegations that a company's website or mobile application works in conjunction with technology supplied by someone else (QR codes, web browsers, smartphones, etc.) or is used by someone else (customers or potential customers), the standard of induced infringement is important to e-commerce companies like Newegg and L.L. Bean. Therefore, they seek to reverse the radical rule pronounced by a bare majority of the *en banc* Federal Circuit, and return to the standard that this Court has followed for many years – a person cannot be held liable for inducing infringement under 35 U.S.C. § 271(b) if no single person or entity has committed direct infringement under 35 U.S.C. § 271(a).

SUMMARY OF ARGUMENT

The *en banc* Federal Circuit properly held – and the Court has not agreed to review – that "[w]hen a single actor commits all the elements of infringement, that actor is liable for direct infringement under 35 U.S.C. § 271(a)." *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1305 (Fed. Cir. 2013) (*en banc*) (brackets added). The *en banc* Federal

Circuit also properly held that "[w]hen a single actor induces another actor to commit all the elements of infringement, the first actor is liable for induced infringement under 35 U.S.C. § 271(b). *Id.* (brackets added). Newegg has no quarrel with either of these two longstanding propositions.

The *en banc* Federal Circuit veered off course, however, when it held that "all the steps of a claimed method must be performed in order to find induced infringement, but . . . it is not necessary to prove that all the steps were committed by a single entity." *Id.* at 1306 (ellipsis added). In such a case, even though no one is liable for direct infringement, a defendant nevertheless may be liable for induced infringement. This effectively rewrites Section 271(b) to impose infringement liability on whoever actively induces infringement whether or not *anyone* actually infringes the patent.

In an unbroken line of cases from *Henry v. A.B. Dick Co.*, 224 U.S. 1 (1912), through *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011), the Court has concluded that there cannot be indirect infringement, including induced infringement, without direct infringement. A bare majority of the *en banc* Federal Circuit brushed aside 60 years of constant and consistent interpretation of the 1952 Patent Act, which, in turn, codified about 80 years of regular enforcement of the principles of contributory infringement, in favor of a radical new rule that divorces induced infringement from direct infringement. This is like staging *Hamlet* without the Prince.

In the arena of statutory interpretation, and particularly in the arena of statutory interpretation of the patent laws, in which constancy and consistency is considered critical, *stare decisis* has special force. Thus, profound changes in patent law based on policy concerns should be made by Congress instead of the courts. It is Congress who has the authority and ability to determine whether the hypothetical loophole discussed by the Federal Circuit is an actual policy problem. Accordingly, the Federal Circuit erred when it ignored this long history and detached induced infringement from the moorings of direct infringement.

This is not simply a fascinating, intellectual inquiry for e-commerce companies such as Newegg. Although an entity cannot be held liable for "actively" inducing infringement under Section 271(b) unless it acts with scienter, which the Federal Circuit held means that the entity knew about the patent, that is little more than a speed bump at the pleading stage. Once a plaintiff alleges such knowledge, it is difficult to dispute, certainly at the motion to dismiss stage, and often even at the summary judgment stage. Indeed, once the plaintiff files suit, a defendant can scarcely claim to be unaware of the plaintiff's patent, thus often permitting full-throated litigation to proceed on a claim for on-going damages for induced infringement from the date of the complaint. Since the principal concern of most e-commerce companies is the cost of full-blown litigation, simply limiting the damage period is unlikely to change the settlement

calculus in which companies often settle even weak e-commerce patent claims.

The practical consequence of the Federal Circuit's revision of the longstanding law on induced infringement is that e-commerce companies such as Newegg can be sued for induced infringement even when they cannot be sued for direct infringement, and the cases are unlikely to be resolved short of trial because central issues will include amorphous issues of intent, and the actions of third parties that the e-commerce companies do not control, *e.g.*, customers, potential customers, smartphone manufacturers, etc. Given the well-known cost and distraction of patent litigation, the likely result for most e-commerce companies will be to accept a cost-of-litigation settlement regardless of the merits of the induced infringement patent claim. The Court, therefore, should recalibrate the scales and return the rule on induced infringement to the requirement that a person cannot be liable for induced infringement unless a single person or entity is liable for direct infringement.

ARGUMENT

I. A PERSON SHOULD NOT BE HELD LIABLE FOR INDUCED INFRINGEMENT IF NO SINGLE ENTITY COMMITTED DIRECT INFRINGEMENT.

The question in this case – whether a defendant can be held liable for inducing patent infringement

under 35 U.S.C. § 271(b) even though no one has committed direct infringement under 35 U.S.C. § 271(a) – can only be understood in the context of two longstanding pillars of patent infringement law that are not at issue in this Court. The *en banc* Federal Circuit correctly held, and the Court has not agreed to review, the requirement that a single entity must perform all of the steps of a claim to directly infringe a patent, and the requirement that a person infringes a patent if he or she actively induces a single entity to perform all of the steps of a claim.

First, "[w]hen a single actor commits all the elements of infringement, that actor is liable for direct infringement under 35 U.S.C. § 271(a)." *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1305 (Fed. Cir. 2013) (*en banc*) (brackets added). Although Respondents sought to review that conclusion not to impose direct infringement liability on multiple, independent parties (No. 12-960), the Court has thus far refused to do so. Because "a direct infringer's knowledge or intent is irrelevant," *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 n.2 (2011), this would be an even more radical expansion than redefining induced infringement to include multiple, independent actors, which at least requires scienter on the part of the person who "actively" induces the infringement. Suffice it to say, Newegg opposes Respondents' effort to rewrite the law of direct infringement. Until that revolution occurs, no one can be held liable for direct infringement of a patent claim unless it performs, directly or

vicariously, each step of that claim. *BMC Research, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007).

Second, "[w]hen a single actor induces another actor to commit all the elements of infringement, the first actor is liable for induced infringement under 35 U.S.C. § 271(b). *Akamai*, 692 F.3d at 1305 (brackets added). No one questions this standard. This means, of course, that returning the standard of induced infringement to its former roots will not render Section 271(b) superfluous.

Once these two unquestionable or unquestioned conclusions are considered, it becomes a short, straight line to the proper resolution of the issue presented in this case. If direct infringement only occurs when a single actor directly or vicariously performs all of the steps of the claim, and if induced infringement occurs when a person actively induces a single actor to perform all of the steps of the claim, it likewise makes sense that induced infringement *only* occurs when a person actively induces a single actor to perform all of the steps of the claim.

After all, Section 271(b) states that "[w]hoever actively induces *infringement* of a patent shall be liable as an infringer. 35 U.S.C. § 271(b) (brackets and emphasis added). Although a person who "actively induces infringement of a patent shall be liable *as* an infringer," *id.* (emphasis added), what "infringes the patent" is defined by 35 U.S.C. § 271(a). Section 271(a), however, limits "infringement of a patent" to

actions taken by a single actor. Logic and syntax dictate, therefore, that that single actor must be actively induced by the defendant to infringe the patent before the defendant is also "liable as an infringer" under Section 271(b).

We are not limited to logic in reaching this conclusion since "the life of the law has not been logic but experience." *Neder v. United States*, 527 U.S. 1, 15 (1999) (citing Oliver Wendell Holmes, *The Common Law*, 1 (1881)). Experience teaches, again and again, that there cannot be indirect infringement without direct infringement.

As the Court recently noted, Sections 271(b) and 271(c) of the Patent Act "have a common origin in the pre-1952 understanding of contributory infringement," and thus should be interpreted in tandem. *Global-Tech*, 131 S. Ct. at 2068. It thus would be "strange" to treat the two provisions differently. *Id.* Cases interpreting both Sections 271(b) and 271(c) lead inexorably to the conclusion that there cannot be induced infringement under Section 271(b) if there is no direct infringement under Section 271(a).

In *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961) ("*Aro I*"), the Court observed that "it is settled that if there is no direct infringement of a patent there can be no contributory infringement." *Id.* at 342. In support, the Court pointed to a pre-1952 opinion from Justice Frankfurter: "In a word, if there is no infringement of a patent there can be no contributory infringer." *Id.* (quoting

Mercoid Corp. v. Mid-Continent Co., 320 U.S. 661, 677 (1944) (Frankfurter, J., dissenting on other grounds)). Quite simply, one cannot contribute to a non-existent infringement. *Id.*

A dozen years later, the Court treated this as a foregone conclusion. "But it is established that there can be no contributory infringement without the fact or intention of a direct infringement." *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 527 (1972). Indeed, the Court added language to Justice Frankfurter's opinion to emphasize the inextricable connection between direct and indirect infringement: "In a word, if there is no [direct] infringement of a patent there can be no contributory infringer." *Id.* (brackets added by Court).

A generation later, in a case "which looked to the law of contributory patent infringement for guidance in determining the standard to be applied in a case claiming contributory copyright infringement," *Global-Tech*, 131 S. Ct. at 2067, the Court matter-of-factly observed that "the inducement theory of course requires evidence of actual infringement by recipients of the device, the software in this case." *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 940 (2005). Unless someone actually infringed the copyright, there could be no induced infringement by anyone else.

Finally, the Court recently concluded that "a party who 'actively induces infringement of a patent' under 35 U.S.C. § 271(b) must know that the induced

acts constitute patent infringement." *Global-Tech*, 131 S. Ct. at 2063. In reaching that conclusion, the Court noted that Section 271(b) "may require merely that the inducer lead another to engage in conduct that happens to amount to infringement" under Section 271(a), or it may require "the inducer [to] persuade another to engage in conduct that the inducer knows is infringement." *Global-Tech*, 131 S. Ct. at 2065 (brackets added). In either event, the Court assumed that one could not induce infringement under Section 271(b) unless the defendant induced "another" to take action that constituted direct infringement under Section 271(a).

Furthermore, the Court observed that Section 271 of the 1952 Patent Act "was designed to 'codify in statutory form principles of contributory infringement' which had been 'part of our law for about 80 years.'" *Global-Tech*, 131 S. Ct. at 2066 (quoting *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 485-86 n.6 (1964) ("*Aro II*") (legislative history citation omitted)). Accordingly, it is still relevant today that the Court concluded in a case decided during the Taft Administration under the common law that "[t]here could have been no contributory infringement by the defendants unless the use of Miss Skou's machine with ink not made by the complainants would have been a direct infringement." *Henry v. A.B. Dick Co.*, 224 U.S. 1, 12 (1912). Stated differently, in case after case decided by this Court in the last 100 years, it has been either announced or assumed that there could not be indirect infringement, including

induced infringement, unless someone directly infringed the plaintiff's patent or copyright.

As the Court observed in slightly different circumstances in *Deepsouth*, "[w]hen so many courts have so often held what appears so evident . . . we are not prepared to break the mold and begin anew." 406 U.S. at 532 (brackets and ellipsis added). On the contrary, since the 1952 Patent Act was designed to codify about 80 years of law concerning indirect infringement, and since Congress has not seen fit to change the law of indirect infringement in the 50 years since *Aro I* and its progeny were decided, the Court should be loath to blaze a new path. *See Global-Tech*, 131 S. Ct. at 2066. Rather, "the doctrine of *stare decisis* with regard to questions of statutory interpretation" has "special force" in such circumstances. *Id.* (citation omitted). Accordingly, if the law of induced infringement is to be changed as a matter of policy, that change should come from Congress. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012) ("we must hesitate before departing from established general legal rules" and "we must recognize the role of Congress in crafting more finely tailored rules where necessary"); *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 457 (2007) (only Congress should consider and close any alleged "loophole" in the patent laws). Unless and until Congress changes the law, the Court should stay the course and continue the constant requirement that there cannot be indirect infringement, including induced infringement under Section 271(b), in the absence of proof

that someone committed direct infringement under Section 271(a).

II. THE STANDARD OF INDUCED INFRINGEMENT IS IMPORTANT TO E-COMMERCE COMPANIES.

A. Eliminating The Requirement Of Proof Of Direct Infringement By A Single Actor Will Lead To A Significant Increase In Induced Infringement Claims Against E-Commerce Companies.

The standard of induced infringement is not a dry academic issue for e-commerce companies like Newegg and L.L. Bean. On the contrary, it has immediate, practical consequences in light of the types of method claims that are routinely asserted against e-commerce companies.

Newegg, L.L. Bean, and others are routinely sued for patent infringement based not on the countless products and services that they sell, but rather based on the mere fact that they sell those products and services over the Internet. Typically, plaintiffs allege that the e-commerce company's website or mobile application works in conjunction with technology supplied by someone else (QR codes, web browsers, smartphones, etc.) or is used by someone else (customers or potential customers), and together these multiple actors perform all of the steps of the plaintiff's patent. Since the plaintiff cannot assert direct infringement because no single actor performs all of

the steps of the patent, and cannot assert contributory infringement because e-commerce companies are often not writing the accused software or source code, that leaves induced infringement.

In *Soverain Software LLC v. Newegg, Inc.*, 836 F. Supp. 2d 462 (E.D. Tex. 2010), *rev'd in part, vacated in part on other grounds*, 705 F.3d 1333 (Fed. Cir. 2013), *cert. denied*, 2014 WL 102440 (U.S. Jan. 13, 2014) (No. 13-477), the plaintiff asserted that Newegg infringed its patent through its operation of a website and its customers' actions on their own computers utilizing "shopping cart" technology that interacted with Newegg's website. A jury rejected claims of direct infringement, but found induced infringement and awarded $2.4 million in damages. Newegg prevailed on appeal not by overturning the finding of induced infringement, but rather by invalidating the patent. Just tracing the case history from the district court to this Court shows that Newegg's final victory came only after four years of expensive litigation.

We need only consider the aftermath of *Akamai* to realize the extent of the effects of the expansion of induced infringement liability. Following the decision below, in cases in which courts found that there was no direct infringement because no single actor performed all of the steps of the patent and therefore committed direct infringement, courts nevertheless reinstated claims of induced infringement. *See, e.g.*, *Travel Sentry, Inc. v. Tropp*, 497 Fed. Appx. 958, 959-60 (Fed. Cir. 2012) ("Tropp's patents claim methods involving the steps of (1) providing to consumers a

'special' dual-access luggage lock having an 'identifying structure,' (2) marketing the special lock to consumers, (3) the identification structure signaling to a luggage screener that the lock may be opened with a master key, and (4) the luggage screener using the master key to open the lock."); *Move, Inc. v. Real Estate Alliance Ltd.*, 709 F.3d 1117, 1120, 1122 (Fed. Cir. 2013) ("Move operates and maintains multiple interactive websites that allow users to search for available real estate properties" but "the Move computer does not do the selecting; a user does the selecting, and then the [user's] computer merely updates display variables to reflect the user's selection") (brackets added); *Aristocrat Technologies Australia Pty. Ltd. v. Int'l Game Tech.*, 709 F.3d 1348, 1350 (Fed. Cir. 2013) (patents relating to gaming machines that "require two separate actors: (1) the casino via the gaming machine and (2) the player"); *Civix-DDI, LLC v. Hotels.com, LP*, 904 F. Supp. 2d 864, 868 (N.D. Ill. 2012) (a method claim of selecting, storing, and supplying information in which the "Hotels.com database does not store advertising information" and "Hotels.com, as opposed to a third party, [does not deliver] advertising information about a business") (brackets added).

These reported decisions represent the proverbial tip of the iceberg because most companies, faced with the prospect of lengthy patent litigation, choose instead to accept a cost-of-defense settlement rather than litigate the merits of even dubious patent claims. Particularly if the decision below is affirmed,

e-commerce companies are unlikely to litigate induced infringement claims if the plaintiff need only allege that the company somehow knew about the plaintiff's patent, maintains a website, and "induces" its customers to interact with that website and take certain actions on their own computers or use third party technology, like a QR code, on their smartphones or tablets.

To be sure, the plaintiff must allege that the defendant acted with scienter, which means knowledge of the patent and knowledge that its induced actions constitute infringement of the patent. *See Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011). However, this likely will only slow, not stop, most claims of induced infringement.

The Federal Circuit has concluded that the plaintiff need not identify any specific, alleged direct infringer (and now need not even allege that there is a direct infringer). *See In re Bill of Lading Transmission and Processing System Patent Litigation*, 681 F.3d 1323, 1336 (Fed. Cir. 2012). Indeed, the plaintiff need only allege "indirect infringement premised on circumstantial evidence of direct infringement by unknown parties." *Id.* (citation omitted). Concerning intent to induce others to infringe a patent, this is not proving to be a high bar – courts have found, for example, "specific intent to encourage users' infringement" simply by providing a user guide that "provides instructions for use that, if followed, would infringe the patent-in-suit." *Tierra Intelectual Borinquen, Inc.*

v. Toshiba America Information Systems, Inc., 2014 WL 605431, *3 (E.D. Tex. Feb. 14, 2014).

Concerning knowledge of the patent, prior to suit, a plaintiff need only allege facts that give rise to an inference that the defendant was aware of the patent. *See, e.g., Radware, Ltd. v. A10 Networks, Inc.*, 2014 WL 61047 (N.D. Cal. Jan. 7, 2014) (defendant's three email subject lines that refer to plaintiff; plaintiff's claim that defendant's product was sufficiently similar that it might have been copied; and public documents referring to plaintiff's patent, are sufficient to infer defendant's knowledge of patent). Furthermore, after filing suit, a "majority of the lower courts . . . have held that a plaintiff may state a cause of action for indirect infringement limited to a defendant's post-litigation conduct by pleading knowledge of the patents-in-suit as of the date of the filing of the complaint." *Zond v. SK Hynix, Inc.*, 2014 WL 346008, *4 (D. Mass. Jan. 31, 2014) (ellipsis added and footnote and citations omitted). Since most patent settlements are driven by the cost of litigation, the prospect of limiting the plaintiff to "only" post-filing damages or a possible injunction for maintaining a website after the plaintiff files suit is cold comfort indeed. Thus, Newegg believes that decoupling induced infringement from the requirement that a single actor be actively induced to commit direct infringement will lead to a dramatic increase in patent litigation against e-commerce companies.

B. Increased Induced Infringement Claims Will Worsen An Intolerable Situation And Lead To Additional Cost-Of-Litigation Settlements.

"[T]he primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and useful arts.'" *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 511 (1917) (quoting U.S. Const. art. I, § 8, cl. 8) (brackets added).

> Patent protection is, after all, a two-edged sword. On the one hand, the promise of exclusive rights provides monetary incentives that lead to creation, invention, and discovery. On the other hand, that very exclusivity can impede the flow of information that might permit, indeed spur, invention, by, for example, raising the price of using the patented ideas once created, requiring potential users to conduct costly and time-consuming searches of existing patents and pending patent applications, and requiring the negotiation of complex licensing arrangements.

Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1305 (2012). Thus, courts seek to maintain the "careful balance" between innovation and competition that "the federal patent laws . . . embod[y]." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989) (ellipsis and brackets added).

In the world of e-commerce patents, however, "[t]hings fall apart; the centre cannot hold; Mere anarchy is loosed upon the world." W.B. Yeats, *The Second Coming* (1919) (brackets added). Due to the current imbalance, "[t]he best lack all conviction, while the worst [a]re full of passionate intensity." *Id.* (brackets added). Stated more prosaically, there is a significant and accelerating problem of weak e-commerce patents being used to extract enormous unearned sums through cost-of-litigation settlements, and lowering the standard for establishing induced infringement will only make an intolerable situation worse.

In brief, empirical studies demonstrate that a confluence of factors – the generally low quality of e-commerce patents, the uncertainty of patent litigation outcomes, and the rising costs of patent infringement litigation – have combined to create an untenable situation. E-commerce patents are *more* likely to be litigated yet *less* likely to be valid. At the same time, lawsuits under e-commerce patents are the *least* likely to reach claim construction, let alone judgment on the merits. In other words, external factors, chiefly expense and uncertainty, are leading companies to settle the very cases that the merits suggest they ought to defend most vigorously.

A 2008 estimate put the number of software patents at over 200,000. *See* James Bessen & Michael J. Meurer, *Patent Failure* 22 (2008). Of these, some 11,000 covered some aspect of the Internet. *Id.* at 8-9. Since that time, the number of software patents has

increased dramatically. James Bessen, *A Generation of Software Patents*, 18 B.U.J. Sci. & Tech. L. 241, 252-53 & Fig. 1 (2012). The Government Accountability Office recently estimated that as of 2011, patents related to software made up more than half of all issued patents. U.S. Government Accountability Office, Report to Congressional Committees, *Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality*, GAO-13-465 at 13 (August 2013) ("GAO Report").

Data on litigation outcomes suggest that e-commerce patents are of lower quality compared with patents in other fields. *See* John R. Allison, Mark A. Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 Geo. L.J. 677, 680 (2011) (software patent-owners overall win only 12.9% of their cases.). Even so, Internet patents in particular are between 7.5 and 9.5 times *more* likely to be litigated than patents in other fields. John R. Allison, Emerson H. Tiller & Samantha Zyontz, *Patent Litigation and the Internet*, 2012 Stan. Tech. L. Rev. 1, 6 (Feb. 14, 2012). Ironically, the very weakness of e-commerce patents actually makes it more likely that they will be litigated aggressively by plaintiffs because aggressive litigation increases the odds that other potential defendants, concerned about the cost of such potential litigation, will agree to take a cost-of-litigation settlement. Erik Hovenkamp, *Predatory Patent Litigation*, 1-5 (Aug. 5, 2013) (available at http://papers.ssrn.com/sol3/papers.cfm?

abstract_id=2308115). Thus, the patents most likely to be litigated are the least likely to survive battle-testing.

It may be an understatement to say that the growth of patent infringement litigation generally, and in the technology sector in particular, has been explosive. *See* Bessen, *supra*, at 259 ("Clearly, the number of software patent lawsuits has continued to grow rapidly, meaning that the risk of litigation from software patents has necessarily increased."). Measured by total number of defendants – which provides a more accurate measure than the total number of cases, given the presence of large multi-defendant patent infringement litigation in some districts – the total number of patent infringement defendants increased six-fold between 1990 and 2010. Kyle Jensen, Patently-O, *Counting Defendants in Patent Litigation* (available at http://www.patentlyo.com/patent/2010/10/guest-post-counting-defendants-in-patent-litigation.html). Growth in the litigation of software patents has kept, if not exceeded, this pace. *See* Bessen, *supra*, at 259 (measuring rapid growth of software litigation by number of lawsuits); GAO Report (number of overall defendants in patent infringement lawsuits increased approximately 129% from 2007 to 2011; 89% of which was due to lawsuits involving software-related patents).

One driver of this growth is the rapid increase in litigation by "patent assertion entities," which are also known as "non-practicing entities" or "patent trolls." Given that the business of the patent

assertion entity depends upon asserting patents in litigation, it is little wonder that the growth of this industry would increase the volume of patent infringement litigation. In a recent study, researchers concluded that plaintiffs whose business is to extract money from patents through litigation and licensing, as opposed to developing products under those patents, accounted for 40% of all patent cases filed in 2011, up from the already significant figure of 22% in 2007. *See* Sara Jeruss, Robin Feldman & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, at 5 & 43-57, Duke Law & Tech. Review (2012); *see also* James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, at 2, Boston Univ. School of Law Working Paper No. 12-34 (June 28, 2012) (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210) (patent assertion entity litigation affected 5,842 defendants in 2011, and cost the country $29 billion). Professor Colleen Chien, who has conducted several studies of patent assertion entity litigation, estimates that 62% of patent lawsuits in 2012 were brought by patent assertion entities, up from 45% in 2011. Colleen Chien, Patently-O, *Patent Trolls by the Numbers* (Mar. 14, 2013) (available at http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html).

The number of companies, organizations, and persons threatened with patent litigation by non-practicing entities is even more dramatic. Conservatively, at least 60,000 companies, organizations, and persons have been threatened with suit by such

entities, and the more likely number is over 100,000. *See* Executive Office of the President, *Patent Assertion and U.S. Innovation*, at 6 (June 2013).

The explosive growth of patent litigation concerning weak e-commerce patents by patent assertion entities would not be a crisis if there was a quick, inexpensive way to separate the wheat from the chaff. One of the critical reasons to return the law of induced infringement to the state of the law for the last 100 years is to provide an early opportunity for defendants to dispose of weak induced infringement claims (particularly when the plaintiff cannot assert in good faith a direct infringement claim) – if a plaintiff cannot "plausibly" assert that a single actor actually directly infringed the patent, the induced infringement claim would not make it out of the starting gate.

Unlike direct infringement claims, which currently need only satisfy the minimalist pleadings requirements of Form 18 of the Federal Rules of Civil Procedure, *see McZeal v. Sprint Nextel Corp.*, 501 F.3d 1354, 1357 (Fed. Cir. 2007), allegations of indirect infringement must satisfy the more robust "plausibility" standard of *Ashcroft v. Iqbal*, 556 U.S. 662 (2009), and *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544 (2007). *See In re Bill of Lading Transmission and Processing System Patent Litigation*, 681 F.3d 1323, 1331-32 (Fed. Cir. 2012). For purposes of a motion to dismiss or an early motion for summary judgment, requiring the plaintiff not only to identify a single actor that infringes the patent, but also to explain

"plausibly" how that single actor infringes the patent is vital. Given the cost of full-blown patent litigation, eliminating weak infringement claims early in litigation is essential if such weak infringement claims are to be eliminated at all.

It belabors the obvious to state that patent litigation is breathtakingly expensive. The American Intellectual Property Law Association estimates that the cost of patent litigation ranges from $350,000 to reach the end of discovery and $650,000 to fully complete litigation when less than $1,000,000 is at risk, to $3,000,000 to reach the end of discovery and $5,000,000 to fully complete litigation when more than $25,000,000 is at risk. Am. Intell. Prop. Ass'n, *Report of the Economic Survey* (2011). Since plaintiffs frequently seek a percentage of a company's online revenues as damages for implementation of the alleged invention on the company's website, the amount at stake often reaches the high end of these estimates, and thus the projected cost of pursuing patent litigation through the final reel is likely to meet or exceed the $5,000,000 estimate. Also, given the asymmetry between parties in which plaintiffs are frequently patent assertion entities, and therefore have little discovery to provide, these costs are usually borne largely by defendants. Furthermore, these litigation costs continue to increase. *See* Stijepko Tokic, *The Role of Consumers in Deterring Settlement Agreements Based on Invalid Patents: the Case of Non-Practicing Entities*, 2012 Stan. Tech. L. Rev. 2, 8 (Jan. 9, 2012).

Efforts to streamline patent litigation through adoption of local patent rules have made it even less likely that most defendants will litigate the merits of even weak patent claims, given the asymmetry between patent assertion entities and e-commerce companies. Currently, 26 districts, including some of the districts with the heaviest patent caseloads, have local patent rules. *Local Patent Rules: Patent Rules Made Easy* (available at http://www.localpatentrules.com/). These local patent rules generally frontload requirements relating to infringement and invalidity analysis, which often require defendants to produce both their non-infringement and invalidity analyses shortly after the plaintiff presents them with its infringement contentions.

The burden here falls more heavily on defendants. To prepare infringement contentions, plaintiffs must only match up the claim language of their patents against the defendants' accused functionality, by, for example, placing claim language next to screen-shots of the defendants' public website – a task that they presumably already performed as part of their pre-filing investigation. To prepare invalidity contentions, defendants, by contrast, must conduct a thorough worldwide search of existing patents and patent applications, technical journals, and other written works, for specific pieces of prior art that match the claim language of the asserted patent point-for-point, and they must perform this search on the tight timeline set by the rules.

For example, Local Patent Rule 3.2 in the Northern District of Illinois requires a defendant's non-infringement, unenforceability, and invalidity contentions within 14 days after getting the plaintiff's infringement contentions. Additionally, Local Patent Rule 3.1 in the Northern District of Illinois requires defendants to provide along with their initial disclosures:

> (1) documents sufficient to show the operation and construction of all aspects or elements of each accused apparatus, product, device, component, process, method or other instrumentality identified with specificity in the pleading of the party asserting patent infringement; and
>
> (2) a copy of each item of prior art of which the party is aware that allegedly anticipates each asserted patent and its related claims or renders them obvious or, if a copy is unavailable, a description sufficient to identify the prior art and its relevant details.

The local patent rules elsewhere generally require defendants to conduct a comprehensive search for prior art early in the litigation, and to disclose under pain of forfeiture shortly after learning the plaintiff's theory of infringement all of the defendant's specific theories of invalidity. *See*, *e.g.*, E.D. Tex. Local Patent Rule 3-3 (disclosure of invalidity theories within 45 days of receipt of infringement contentions); N.D. Cal. Local Patent Rule 3-3 (same); S.D.N.Y. Local Patent Rule 7 (same); D.N.J. Local Patent Rules 3.2A, 3.3

(disclosure of non-infringement and invalidity theories within 45 days of receipt of infringement contentions).

Additionally, in the busiest patent district, the Eastern District of Texas, standing discovery orders generally require parties at the outset of the case, without the necessity of a document request, to "produce or permit the inspection of all documents, electronically stored information, and tangible things in the possession, custody, or control of the party that are relevant to the pleaded claims or defenses involved in this action[.]" Judge Rodney Gilstrap, *Discovery Order – Patent* (brackets added) (available at http://www.txed.uscourts.gov/page1.shtml?location=info:judge&judge=17). Thus, defendants frequently must provide not only a complete accounting of their invalidity positions and prior art, but also a complete document production on a compressed schedule. Again, plaintiffs do not share this burden as their document production, particularly in the case of patent assertion entities, generally amounts to little more than a copy of the patent and its file history and records of prior settlement agreements.

Accordingly, once sued for patent infringement, Newegg incurs early in the case the disproportionate costs necessary to develop their non-infringement and invalidity positions (including scouring the world for potential invalidating prior art), and to produce all potentially relevant documents, including all electronically stored information, which, in turn, necessitates significant internal investment and distraction. But, even if Newegg incurs such costs and distraction,

there is no obvious exit ramp from the litigation other than settlement because infringement and invalidity analysis frequently must await claim construction before being ripe for summary judgment. "[I]n almost every patent case claim construction is a dispositive issue." David L. Schwartz, *Courting Specialization: An Empirical Study of Claim Construction Comparing Patent Litigation Before Federal District Courts and the International Trade Commission*, 50 Wm. & Mary L. Rev. 1699, 1708 (2009) (brackets added). This means, however, that Newegg, L.L. Bean, and others usually must incur the cost and distraction of a patent case through discovery and claim construction before they even have the opportunity to convince the court that they do not infringe the specific claims of the patent or that the specific claims of the patent are invalid.

Although claim construction may be a dispositive issue, it rarely is a settled issue. Studies show that the reversal rate by the Federal Circuit on claim construction ranges between 33% and 44%. Ted L. Field, *"Judicial Hyperactivity" in the Federal Circuit: an Empirical Study*, 46 U.S.F. L. Rev. 721, 734-35 & Table 1 (2012). This means that even if an e-commerce company is prepared to pursue the matter through trial, its odds on appeal on the dispositive issue in the litigation are little better than the flip of a coin.

The reality of modern patent litigation is that e-commerce companies often face the Sisyphean prospect of spending upwards of $5,000,000 through the end of the litigation, preparing and producing

early in the litigation their non-infringement and invalidity positions, producing early in the litigation their documents and electronically stored information, conducting full-blown discovery, and litigating dispositive claim construction issues that are reversed nearly half the time on appeal, just to be able to have a court rule that they do not infringe the specific claims of the patent-in-suit or that the specific claims of the patent-in-suit are invalid as anticipated, obvious, lacking a written description, and the like. So long as the plaintiff prices the settlement at less than the massive costs of defense through judgment and appeal, most defendants will opt to settle instead of defending against even a weak patent. *Cf. Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1327 (Fed. Cir. 2011) (defendant spent over $600,000 to litigate a case it could have settled for $75,000 or less). Based on these pragmatic concerns, even though weak e-commerce patents are growing in number, they rarely are litigated to a final judgment that is affirmed on appeal.

Against this backdrop, lowering the standard for asserting induced infringement claims in which a plaintiff need not even identify anyone who actually infringes the patent, much less plausibly explain how that person infringes the patent, in order to proceed against the deep-pocketed e-commerce company on an amorphous claim that it "induced" infringement by operating a website in which customers and potential customers interact and take independent actions or use web browsers, QR codes, or smartphones supplied

by someone else, only worsens a broken system. The Court should restore some balance to the patent laws by resuscitating the law of induced infringement and requiring a single entity to have directly infringed a patent under Section 271(a) before a person can be found to have actively induced that infringement under Section 271(b).

CONCLUSION

Amici Curiae Newegg, Inc. and L.L. Bean, Inc. request that the Court reinstate the test for induced infringement that a person cannot be held liable for inducing infringement under 35 U.S.C. § 271(b) if no single entity has committed direct infringement under 35 U.S.C. § 271(a), and remand for reconsideration in light of the announced standard.

Respectfully submitted,

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Petitioner,

v.

AKAMAI TECHNOLOGIES, INC., *et al.*,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF PHARMACEUTICAL RESEARCH AND MANUFACTURERS OF AMERICA AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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INTEREST OF *AMICUS CURIAE*[1]

The Pharmaceutical Research and Manufacturers of America (PhRMA) is an association dedicated to representing the interests of the Nation's leading pharmaceutical and biotechnology companies. Our members' research and development efforts produce the innovative medicines, treatments, and vaccines that save and ameliorate the lives of countless individuals around the world every day. Over the past decade, our members have secured the FDA's approval of more than 300 new medicines. Such results do not come cheaply. In 2012 alone, PhRMA companies invested roughly $48.5 billion in the development of new drugs, only some of which will become tomorrow's medicines.

PhRMA seeks to protect this significant financial investment by advancing public policies that foster and reward our members' efforts. A large portion of this work centers upon removing obstacles to innovation, including those that may arise in the field of intellectual property. Thus, adequate protection for such property, and effective remedies when it is infringed, are essential to promote innovation.

The Patent Act was designed to achieve this very result, and should be interpreted and applied to preserve and protect the rights of patent holders. This case presents a unique opportunity for this

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[1] Pursuant to Supreme Court Rule 37.6, *amicus* hereby certifies that no counsel for a party authored this brief in whole or in part, and that no one but *amicus* and its counsel contributed financially to the brief's preparation or submission. Petitioner has filed a blanket consent to the submission of briefs by *amici*, and respondents have provided consent to this filing, written proof of which is filed concurrently with this brief.

Court to advance that goal, by holding that a direct infringement occurs, and liability attaches, whenever all of the steps of a patented method are practiced, regardless of whether the steps are performed by a single entity or (as here) multiple parties working in concert.

Pharmaceutical innovation is becoming more and more focused on tailoring treatments to the genetic make-up and molecular characteristics of each patient and their disease. Matching and delivering the right treatments to the right patients, however, means that more individuals must be involved in the proper selection and delivery of these innovations to the patients who need them. That reality creates a possible tension in the patent law, particularly with respect to proving infringement, which can undermine the incentives of the patent system to create these new pharmaceutical innovations. PhRMA submits this brief in support of respondents and affirmance of the judgment below.

INTRODUCTION AND SUMMARY

The Federal Circuit held in the judgment below that a party may be liable for inducement of infringement under 35 U.S.C. § 271(b) even though no single party performed all of the steps of infringement, which means (in the Federal Circuit's view) that no party was liable for direct infringement under 35 U.S.C. § 271(a). Pet. App. 9a-18a. That holding accords both with the text of § 271 and this Court's precedents, and may be affirmed on that ground.

However, as respondents likewise recognize, there is a more fundamental basis for affirmance, one that this Court can and should reach. The Federal Circuit held in this case, following two of its recent decisions,

BMC Res., Inc. v. *Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007), and *Muniauction, Inc.* v. *Thompson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), that liability for direct infringement of a method patent under § 271(a) attaches only where a single party either performs or legally controls the performance of each step in the patented process—in the Federal Circuit's words, where a so-called "mastermind" directs the infringement. *Muniauction*, 532 F.3d at 1329. This conclusion is flatly inconsistent with the common law tort principles of joint and several liability that were incorporated into the Patent Act at its enactment, and which have since guided its interpretation and application. Those principles require that in these circumstances, where multiple coordinating parties with a common interest perform all steps of a patented process, each of those parties may be held liable for direct infringement under § 271(a).

In the decision below, the Federal Circuit acknowledged the inconsistency between its approach and these well-settled tort principles, but declined to "revisit" its prior decision because, even if a party could not be held liable for direct infringement under § 271(a) in this situation, liability for *induced* infringement could still attach under § 271(b). Pet. App. 6a, 9a-10a. While that holding offers some protection for patent holders whose rights are infringed, it preserves a misinterpretation of the Patent Act under which multiple parties may effectively collude to avoid liability for direct infringement by structuring their operations through arms-length transactions. This Court should unequivocally reject that incorrect construction and hold that, under these circumstances, the patent holder need not resort to claims of induced infringement to

protect its rights but may hold any of the joint infringers directly liable for the infringement.

ARGUMENT

Under the Patent Act, parties may be held jointly liable for direct infringement if they collectively perform each step of a protected process. This result is driven by sound principles of common law tort liability that informed Congress's understanding when it enacted that statute, and the plain language of 35 U.S.C. § 271(a) confirms its accuracy. *Infra* Part I. The contrary holding of the Federal Circuit—that direct infringement requires a single party to perform or control each step in the process—not only contravenes the statutory text, but also undermines the congressional aims embodied in the Patent Act, by stifling innovation and eroding the public-notice function of the patent scheme. *Infra* Parts II-III.

I. LIABILITY FOR DIRECT INFRINGEMENT UNDER 35 U.S.C. § 271(a) ATTACHES WHEN A PARTY ACTS IN CONCERT WITH OTHERS TO PERFORM ALL STEPS OF A PATENTED PROCESS.

Multiple parties who coordinate to perform each step of a process patent are jointly liable for direct infringement under 35 U.S.C. § 271(a). That holding follows from a straightforward application of common law rules of tort liability. These rules formed the backdrop against which the Patent Act was passed in 1952, and neither the text of the statute nor its legislative history indicates a desire among the Act's drafters to depart from these sound principles.

1. Prior to 1952, courts analyzed patent infringement as any other "tort[,] analogous to trespass or trespass on the case." *Thomson-Houston Elec. Co.* v.

Ohio Brass Co., 80 F. 712, 721 (6th Cir. 1897) (Taft, C.J.). With the Patent Act of 1952, Congress sought to clarify and to codify those rules that had emerged to guide such analysis. See *NTP, Inc.* v. *Research In Motion, Ltd.*, 418 F.3d 1282, 1319 (Fed. Cir. 2005). And though the result was a comprehensive statutory scheme, it was one built atop a foundation of tort law's elemental rules. Those rules inform the courts' interpretation of the Patent Act to this day.

Among those principles familiar to legislators in 1952 was that "acts which individually would be innocent may be tortious if they thus combine to cause damage." W. Page Keeton et al., *Prosser and Keeton on the Law of Torts* § 52, at 354 (5th ed. 1984) [hereinafter Prosser & Keeton]; see also Restatement (Second) of Torts § 840E reporter's note (1982) (Appendix) (collecting cases demonstrating actionable nuisance by multiple parties "[w]hen the contribution of each would be harmless in itself"). Courts have long applied this principle to hold multiple parties liable for composite—though perhaps not individual—wrongful acts. Although "without unity or concert of action, no wrong could be committed," where such coordination is present, "all who act must be held to act jointly." *The Debris Case*, 16 F. 25, 30 (C.C.D. Cal. 1883) (quotations omitted); see also *Sloggy* v. *Dilworth*, 36 N.W. 451, 453 (Minn. 1888) (noting that when harm occurs "as the result of the acts of several parties, they are all liable" and "[i]t is no defense that the injury caused or wrong done by any one standing alone might not be a sufficient ground of complaint"). This rule was included in the Restatement (Second) of Torts, which stated that, where "each of several persons contributes to a nuisance to a relatively slight extent, so that his contribution taken by itself would not be an

unreasonable one," the liability of each contributor "may depend upon whether he is aware of what the others are doing, so that his own conduct becomes negligent or otherwise unreasonable in the light of that knowledge. Restatement (Second) of Torts § 840E cmt. a (1979); see also Restatement of Torts § 881 cmt. a (1939); Prosser & Keeton, *supra*, § 41, at 268.

This rule of liability reflects the common law's unwillingness to permit wrongdoers to elude responsibility simply by stopping short of an intended wrong and arranging for another, or many, to complete the act. Though "[o]ne drop of poison in a person's cup, may have no injurious effect[,] .... when a dozen, or twenty, or fifty, each put in a drop, fatal results may follow." *United States* v. *Luce*, 141 F. 385, 412 (C.C.D. Del. 1905). Plainly, "[i]t would not do to say that neither was to be held responsible." *Id.* As neither the nature nor the extent of the plaintiff's injury is altered by the fact of such coordination, the common law preserves his remedy against the group. For wrongdoers "'seek[ing] to escape liability for a reason that, if recognized, would likewise protect each other defendant in the group, thus leaving the plaintiff without a remedy,' the attempt at escape fails; each is liable." *Boim* v. *Holy Land Found. for Relief & Dev.*, 549 F.3d 685, 696-97 (7th Cir. 2008) (en banc) (citing Prosser & Keeton, *supra*, § 41, at 268).

2. These principles were, without doubt, incorporated into the Patent Act's definition of direct infringement. As this Court has noted, "when Congress creates a tort action, it legislates against a legal backdrop of ordinary tort-related ... liability rules and consequently intends its legislation to incorporate those rules." *Meyer* v. *Holley*, 537 U.S. 280, 285 (2003). To be sure, Congress may "abrogate a

common-law principle," but to do so it "must 'speak directly' to the question addressed by the common law." *United States* v. *Texas*, 507 U.S. 529, 534 (1993) (quoting *Mobil Oil Corp.* v. *Higginbotham*, 436 U.S. 618, 625 (1978)). There is no indication, either in the language or history of the provision, that Congress did so here.

a. Nothing in the text of § 271(a) indicates its drafters intended to depart from the established and traditional rules of joint liability. Quite the contrary, the statute states broadly that "*whoever* without authority makes[or] uses ... any patented invention during the term of the patent ... infringes the patent." 35 U.S.C. § 271(a) (emphasis added). This language does not itself require that a single individual be alone responsible for making or performing the patented claim, and is perfectly consonant with the common law rule that one who acts in concert with another to infringe a patent is directly responsible for the resulting infringement.

The use of the term "whoever" in the provision clearly does not mean, as the Federal Circuit has apparently assumed, see *BMC*, 498 F.3d at 1380, that only a single party may be held liable for direct infringement. That term is used elsewhere in the Patent Act to encompass potentially multiple parties. See, *e.g.*, 35 U.S.C. § 101 ("Whoever invents or discovers any new and useful process ... may obtain a patent therefor ...."). Without question the Patent Act envisions joint inventorship. *Id.* § 116(a); 1 Donald S. Chisum, *Chisum on Patents* § 2.02 (2007). And, if any doubt remained, Congress has elsewhere declared that as a general rule, "words importing the singular include and apply to several persons, parties, or things." 1 U.S.C. § 1.

There is, in short, no basis in the statute to conclude that liability for direct infringement could attach only when a single actor performs all steps of the relevant patent. Indeed, given the presumption that common law principles are incorporated into remedial statutes, such as this, see *Meyer*, 537 U.S. at 285, the most reasonable construction of § 271(a) is that, where two or more parties act in concert to perform a patented process, each of those parties may under common law principles of joint and several liability potentially be held liable for direct infringement.

b. This conclusion is confirmed by the legislative history of the Patent Act of 1952. That history shows that its drafters intended that the traditional tort-based approach to direct infringement would continue to apply under the new statutory provisions.

One of the Act's principal drafters indeed described the infringement provision as a "codification" of the prior common law principles. *Patent Law Codification and Revision, Hearings Before Subcomm. No. 3 of the H. Comm. on the Judiciary*, 82d Cong. 151 (1951) (testimony of Giles S. Rich). With respect to direct infringement in particular, the common law of patents that had emerged was considered so straightforward and well developed that the authors of the Act suggested that § 271(a) was "not actually necessary." H.R. Rep. No. 82-1923, at 9 (1952); see also Giles S. Rich, *Infringement Under Section 271 of the Patent Act of 1952*, 21 Geo. Wash. L. Rev. 521, 537 (1953) (noting that § 271(a) "is present only for the sake of completeness," and that "[i]ts omission would change nothing"). Thus, the Act's drafters "left intact the entire body of case law on direct infringement." *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336, 342 (1961).

That pre-1952 case law made clear that, where multiple parties combined to infringe a patent, liability attached to each without regard to whether one individual had infringed completely. Long prior to the Act's passage, courts acknowledged that "[d]ifferent parties may all infringe, by respectively making or selling, each of them, one of the elements of a patented combination, provided those separate elements are made for the purpose, and with the intent, of their being combined by a party having no right to combine them." *Saxe* v. *Hammond*, 21 F. Cas. 593, 594 (C.C.D. Mass. 1875) (No. 12,411). In the oft-cited case of *Wallace* v. *Holmes*, the court held that where two parties perform separate steps of a patented process, "each utterly useless without the other, and each intended to be used, and actually sold to be used, with the other," they are "joint infringers of the complainants' patent." 29 F. Cas. 74, 80 (C.C.D. Conn. 1871) (No. 17,100). Nothing in the statute or its legislative history suggests that Congress intended to modify or abrogate these principles of direct infringement.

Rather, the change in the law that the drafters intended was limited to the issue of *indirect* infringement. Decisions from this Court had substantially restricted the scope of contributory infringement, largely prohibiting the imposition of liability on a party that aids or abets in the infringement of a patent but does not itself directly participate in the making or use of the patented invention. See *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661 (1944); *Mercoid Corp.* v. *Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680 (1944); see also *Contributory Infringement of Patents: Hearings Before the Subcomm. on Patents, Trade-marks, and Copyrights of the H. Comm. on the Judiciary*, 80th Cong. 4 (1948)

(citing cases). By enacting subsections (b) and (c) of § 271, which separated and expanded the concepts of inducement and contributory liability respectively, Congress sought to overturn those rulings and render liable "those who sought to cause infringement by supplying someone else with the means and directions for infringing a patent." H.R. Rep. No. 82-1923, at 9.

Congress did not, however, revise or restrict the scope of direct infringement under subsection (a). Indeed, it would have been flatly inconsistent with the overall goal of the 1952 legislation—to *expand* the range of conduct that would result in liability under the Patent Act, see *id.*—for Congress to have at the same time limited the scope of liability for direct infringement. The only reading of the statute that is consistent with the history of the provision is one that recognizes that, just as at common law, when two or more parties coordinate so that each performs some steps of a patent, each party may be liable for direct infringement.

3. With nothing in the language or history of § 271(a) to support its holding that "direct infringement requires a *single party* to perform every step of a claimed method," *Muniauction*, 532 F.3d at 1329, the Federal Circuit asserted that this construction is required by the structure of the statute. *BMC*, 498 F.3d at 1381. It reasoned that, if liability for direct infringement attached to all parties that coordinate in performing the patented process, "a patentee would rarely, if ever, need to bring a claim for indirect infringement" under § 271(b) or (c). *Id.*; see also U.S. Br. 12.

The premise of this argument, that the availability of joint liability for direct infringement under subsection (a) would render the indirect infringement

provisions of subsections (b) and (c) superfluous, is clearly wrong. That is because a party that is liable for joint direct infringement is not necessarily also liable for indirect infringement, and vice versa. For instance, a party that supplies an essential element of the patented invention, but does not otherwise participate in the infringing acts, may be liable for contributory infringement under § 271(c) but cannot be liable for direct infringement under § 271(a). This was the holding of *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.* (*Aro II*), which found that a supplier of fabrics uniquely used for infringing purposes could not be liable for direct infringement, but was liable for contributory infringement under § 271(c). 377 U.S. 476, 485 (1964). There is a critical distinction between a supplier who, as in *Aro II*, injects a component necessary for infringement into the stream of commerce, and one who performs certain steps in a complex patented process and actively "instructs its customers on the steps needed" to complete that process. Pet. App. 4a. The latter has crossed a threshold of coordination sufficient to impose joint liability under the common law, and as such, sufficient to establish direct infringement under § 271(a).

The mere fact that there may be some overlap among these provisions, such that a party might be liable under more than one of them, does not render any of the provisions superfluous. To the contrary, it is often the case that liability for the same conduct may be founded under more than one theory. A manufacturer of a defective product may, for instance, be held strictly liable for any resulting damages under the common law of products liability, whether or not the manufacturer acted negligently or with improper intent. See Restatement (Third) of

Torts: Products Liability § 1 (1998). If lack of due care or malicious intent can be proven, however, the manufacturer might also be held liable either under a negligence cause of action or for an intentional tort. See *id.* § 2 cmt. n (noting that a "plaintiff may bring actions in both strict liability and negligence"). That these various theories may provide a means for recovery does not make any of them superfluous, but simply reflects that the law can and often will provide alternative routes to a potential remedy. Cf. *i4i Ltd. P'ship* v. *Microsoft Corp.*, 598 F.3d 831, 851 (Fed. Cir. 2010), *aff'd*, 131 S. Ct. 2238 (2011) (finding defendant liable for both inducement of infringement and contributory infringement).

That is precisely what Congress did in § 271. A party whose patent is infringed as a result of the conduct of multiple other parties may pursue one of three avenues for recovery. If, as here, each of the parties acted in concert in performing some step of the patent, then each may be held liable as a direct infringer under subsection (a), regardless of whether any of them directed or actively encouraged others to commit the infringement. *Supra* pp. 6-8. Alternatively, if one of the parties actively and intentionally induced another party to perform the infringement, that party may be held liable for induced infringement under subsection (b), regardless of whether the party actually performed any step of the patented invention. See *Arris Grp., Inc.* v. *British Telecomms. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011) (noting that § 271(b) requires that one merely "cause, urge, encourage, or aid another to directly infringe a patent"). Finally, if a party provides a component of or material for use in practicing a patented invention, that party may be held liable for contributory infringement under subsection (c),

whether or not the party otherwise actively induced or participated in the infringement. *E.g.*, *Fromson* v. *Advance Offset Plate, Inc.*, 720 F.2d 1565, 1567-68 (Fed. Cir. 1983).

The three provisions thus target and reach different scenarios, including that a party may be held liable for direct infringement when it works in concert with another party to perform the patented process. There is, for that reason, no need and no basis to artificially limit liability for direct infringement to situations in which a single entity is entirely responsible for the infringement.

4. To hold otherwise—*viz.*, that parties who coordinate to infringe a patent cannot be held liable for direct infringement—would (in addition to the flaws discussed above) create a host of other anomalies. For example, under the Federal Circuit's view, no party can be held directly liable for an "infringement" that undoubtedly occurred. Pet. App. 9a-11a. This conclusion is difficult to square with the statutory scheme, which seemingly requires for any "infringement" at least one party to be liable as a direct infringer under subsection (a), and any indirect infringers will then be derivatively liable under subsections (b) and (c). See 35 U.S.C. § 271; see also, *e.g.*, *Aro II*, 377 U.S. at 483.

It would, however, hardly be reasonable to allow a party to evade liability for induced or contributory infringement merely because no single party can be liable for direct infringement. See Pet. App. 9a-18a. The Federal Circuit recognized this point and, to avoid that result, held that where multiple parties coordinate to infringe a patent, the resulting "infringement" is sufficient to support liability for induced or contributory infringement under

subsections (b) or (c)—even though no party may be held directly liable for it. *Id.* at 9a-11a.

This holding is clearly correct insofar as it recognizes that an "infringement" occurs whenever all steps of a patented process are performed, whether by one party or several acting in concert. Pet. App. 9a-18a. But it fails to take the next logical step, and conclude that any party that materially contributed to the infringement is liable as a "direct infringer." *Supra* pp. 6-8. This interpretation ensures that liability will attach to those parties that coordinate to infringe a patent—as the statute and common sense dictate—but avoids both the need to resort to concepts of indirect infringement and the anomalies created by the Federal Circuit's construction.

None of this is to say, of course, that liability for direct infringement attaches to any party that performs *any* step in a patented process or contributes in *any* way to infringement. Infringement can be found in any case only if all of the claimed steps in the patented process have been completed. *E.g.*, *Warner-Jenkinson Co.* v. *Hilton Davis Chem. Co.*, 520 U.S. 17, 24-25 (1997). Once an infringement has occurred, a party may be held directly liable only if that party performed some step in the process, and then only if the party understood or intended that other parties would perform the remaining steps. See, *e.g.*, Restatement (Second) of Torts § 876; see also *Thomson-Houston*, 80 F. at 721. And under traditional principles of tort law (incorporated into the Patent Act) a party whose conduct represents only a minor or *de minimis* contribution to the infringement can and should be excused from liability. *E.g.*,

Restatement (Second) of Torts § 834 cmt. d.[2] So, for instance, when a physician administers to the patient a treatment that represents the last step of a patented process—a process that was commenced and conducted in all other respects by the companies that developed and marketed the treatment—neither the physician nor the patient would be liable as direct infringers even though their actions constituted the last step of the infringement. See *id.*[3]

While proof that one party served as the "mastermind" of the operation or that the parties acted under express contractual agreement would certainly suffice to establish direct infringement liability, as the Federal Circuit has said, *Muniauction*, 532 F.3d at 1329, neither the statute nor traditional principles of tort law require such proof as a prerequisite to liability. Rather, under those principles, a party may be found directly liable for infringement under § 271(a) if it performed material steps in the patented process in coordination with others or with knowledge that others would perform the remaining steps. *Supra* pp. 6-8. Such a rule would properly

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[2] *See supra* pp. 4-6; *see also* Restatement (Second) of Torts § 834 cmt. d (noting that "participat[ion] in [the objectionable] activity" is not alone sufficient to impose liability, but rather the party must contribute to the result "to such an extent as to justify" liability; providing as an example that, where a dancehall creates an actionable nuisance, the proprietor is liable but the customers are not).

[3] Indeed, the Patent Act contains an express exemption for medical practitioners in this situation, providing that "performance of a medical activity that constitutes an infringement under section 271(a) or (b)" shall not expose the practitioner to liability. 35 U.S.C. § 287(c)(1). Congress thus has confirmed that the common principles of joint liability, including the exception for minor and *de minimis* contributions, apply to direct infringement.

impose liability on parties, like Limelight in the instant case, who perform multiple steps of a patented process and enter into arms-length transactions with parties whom it both intends and expects will complete the remaining steps.

II. IMPOSING JOINT LIABILITY FOR DIRECT INFRINGEMENT ON PARTIES ACTING IN CONCERT TO PERFORM THE STEPS OF A PATENTED PROCESS ADVANCES THE GOALS OF THE PATENT ACT.

This Court has long recognized that the Patent Act, even more so than other statutes, must be interpreted in light of "the congressional objectives served by the patent laws." *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U.S. 141, 155 (1989); see also *Diamond* v. *Chakrabarty*, 447 U.S. 303, 315 (1980) (reading precedent so as not to "frustrate the purposes of the patent law"); *Godfrey* v. *Eames*, 68 U.S. (1 Wall.) 317, 325 (1863) (requiring that the Patent Act of 1839 be "construed as to give the fullest effect to the beneficent purpose of the legislature"). Recognizing that liability for direct infringement attaches to parties who coordinate to perform the steps of a patented process will best advance these objectives.[4]

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[4] The United States urges that the task of correcting course be left to Congress, which it claims "is better positioned than are the courts to address the empirical and policy questions implicated by collective performance of method patents." U.S. Br. 34. Legislative solutions may be preferable as a general matter. But this case permits a simpler resolution than waiting for Congress to act. Indeed, it hinges on what are quintessentially judicial tasks: the application of common law principles to a statutory scheme, and the interpretation of the patent laws to reflect their purpose.

1. The principal purpose of the Patent Act—indeed, in large part its reason for being—is to reward and protect innovation by allowing "the inventor ... to exclude others from the use of his invention" during the patent period. *Eldred* v. *Ashcroft*, 537 U.S. 186, 215-16 (2003) (quoting *Sears, Roebuck & Co.* v. *Stiffel Co.*, 376 U.S. 225, 229 (1964)). This purpose is stated explicitly in the Patent Clause of the Constitution, which authorizes Congress to "secur[e] ... to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. Const. art I, § 8. It is also reflected throughout the provisions of the Act stating that "[e]very patent shall ... grant to the patentee ... the right to exclude others from ... using ... [the claimed] process." 35 U.S.C. § 154(a)(1). To advance this policy, as this Court has said, the patent laws must be construed to preclude others from using the invention without permission and to grant inventors a cause of action and a remedy for infringement when they do. *E.g.*, *Ass'n for Molecular Pathology* v. *Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013).

This purpose is fundamentally undercut by the Federal Circuit's approach to direct infringement liability. That approach would allow an infringement to occur, and would deny any remedy to the patentee, so long as the infringing parties are not operating under the control of a single "mastermind" or under an express contractual arrangement reflecting an intent to infringe. Pet. App. 9a-18a. The infringing parties could intentionally coordinate their activities to perform the patented process and profit from the sale or use of that process, without license from the patentee and without payment of any royalties. *Id.* Far from protecting the patentee's "right to exclude others from ... using ... [the claimed] process," 35

U.S.C. § 154(a)(1), the Federal Circuit's rule on direct infringement offers a simple roadmap for others to utilize the patented process without expense or risk of suit.

The Federal Circuit itself has acknowledged as much. In its decisions announcing this rule, it has said that under its precedent parties need only "enter into arms-length agreements to avoid infringement." *BMC*, 498 F.3d at 1381. Such agreements are easy to structure, especially where a process's final steps require little in the way of expertise. See W. Keith Robinson, *No "Direction" Home: An Alternative Approach to Joint Infringement*, 62 Am. U. L. Rev. 59, 103-04 (2012); Long Truong, Note, *After* BMC Resources, Inc. v. Paymentech, L.P.*: Conspiratorial Infringement As A Means of Holding Joint Infringers Liable*, 103 Nw. U. L. Rev. 1897, 1918-19 (2009). As this case illustrates, a company can itself perform all but one step in a patented process, leaving little more for its customers to do than to push the proverbial button. In fact, they can even supply detailed instructions on how precisely the button should be pushed.

This reflects more than just bad policy; it is a circumvention of congressional judgment. Courts have long recognized that the "*claim*[] ... provide[s] the measure of the patentee's right to exclude." *Johnson & Johnston Assocs.* v. *R.E. Serv. Co.*, 285 F.3d 1046, 1052 (Fed. Cir. 2002) (en banc) (per curiam) (emphasis added); see also *McClain* v. *Ortmayer*, 141 U.S. 419, 424 (1891) ("The claim is the measure of his right to relief ...."). The Federal Circuit, however, renders the patentee's right to exclude dependent not on the claim but on the relationship among the parties who are practicing the claim. Only if those parties are operating under

common direction, or under an express contractual agreement to violate the patent, can the patentee halt the infringement or obtain other relief.

There is simply no way to justify this result under the Patent Act. The right to enforce a patent cannot be made to depend on whether the infringer *controlled* the third party making the final step or merely *arranged for* his actions at arm's length. From the patentee's perspective, the distinction is meaningless: all elements of the protected process have been performed, and the parties that did so are profiting from the unauthorized use of the invention. Only by imposing liability on all infringing parties in this circumstance—allowing the patent owner a remedy *whenever* the patent is infringed, whether by one party or many—can the fundamental purpose of the Patent Act be vindicated.

2. The other primary purpose of the Patent Act, to provide public notice of patent rights, is likewise best advanced by a rule imposing liability for direct infringers on all parties that coordinate to perform the patented process. The point of the notice requirement is to define the patentee's claim and delineate clearly the public's corresponding obligations. See *Freedman Seating Co.* v. *Am. Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005). In other words, the patent should serve to eliminate uncertainty among members of the public regarding whether and when their conduct will infringe upon the claim.

The rule adopted by the Federal Circuit, however, creates just this uncertainty. When each step in a patented process can be copied without recourse, the claim ceases to be a reliable barometer of lawful behavior. *Id.* Instead, parties must look to the nature of their relationships with and degree of control over third parties with whom they wish to collaborate. As

the Federal Circuit's jurisprudence on the subject reveals, this is murky water at best.

Petitioner and some of its *amici* suggest to the contrary that the public notice function is undermined by imposing liability on parties that have not themselves performed all steps in a patented process, as those parties would not necessarily know that others have completed the remaining steps. See Pet. Br. 43; Br. of Electronic Frontier Found. 13-15; Br. of CTIA—The Wireless Assoc. 25-26. But, while this point certainly would counsel against the imposition of liability on a party acting independently of others—and who without knowledge or intent contributes to infringement—traditional principles of tort liability already protect such parties from liability. See Restatement (Second) of Torts § 876 cmt. c ("One who innocently ... does an act that has the effect of ... cooperating in the tortious design of another is not for that reason subject to liability."). Only those who intentionally coordinate with others to perform the patented steps, or have knowledge that all of the steps have been or will be performed, would be liable as direct infringers under 35 U.S.C. § 271(a). Imposing liability on these individuals is not only entirely consonant with the public notice function but, as discussed above, is necessary to ensure the certainty and clarity the Patent Act is intended to provide and that the fundamental purpose of promoting science and the useful arts is achieved.

III. A CLEAR RULE IS IMPORTANT IN AN ERA OF PERSONALIZED MEDICINE.

The era of personalized medicine—where the genetic make-up and molecular characteristics of each patient and their disease drive the selection of the right drug or drugs to treat that person—is transforming not only the way that drugs are

discovered and developed, but how they are used to alleviate human suffering and disease. Achieving the promise of personalized medicine necessarily means more entities will be involved in providing treatment to the patient. For example, to select the right drug for a patient, the patient will first have to be subjected to diagnostic tests to see if the drug will be effective for that patient. In some settings, particular combinations of drugs may be needed, again requiring additional testing and evaluation of the patient's needs.

Protecting rights in pharmaceutical treatment patents is a critically important issue for ensuring continued innovation in the pharmaceutical field. Such patents are an increasingly common way for companies in the life sciences and medical fields to protect and develop their investments in developing these important pharmaceutical innovations, ranging from new diagnostic techniques, novel drug-delivery systems and therapeutic methods. Indeed, courts have properly recognized the special importance of fostering and rewarding innovation in the hyper-competitive life sciences industry. *E.g.*, *Biotechnology Indus. Org.* v. *Dist. of Columbia*, 496 F.3d 1362, 1372 (Fed. Cir. 2007) ("Importantly, the patent system provides incentive to the innovative drug companies to continue costly development efforts.").

The additional activities by many parties in delivering personalized medicines to the patients who will benefit from them creates a pronounced risk for innovators: namely, that the patent rights that encouraged these important pharmaceutical innovations will be more difficult, or even impossible, to use in practice. Indeed, the ease with which process patents may be infringed, under the Federal Circuit's rule on direct infringement, threatens to dilute the

incentives of the patent system, for inventing and bringing to market life-saving and life-improving products.

CONCLUSION

For these reasons, and those stated by respondents, the jury verdict of direct infringement should be reinstated or, alternatively, the judgment of the court of appeals should be affirmed.

Respectfully submitted,

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IN THE

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LIMELIGHT NETWORKS, INC.,
PETITIONER,

V.

AKAMAI TECHNOLOGIES, INC., ET AL.,
RESPONDENTS.

On Writ of Certiorari to the Supreme Court of the United States

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BRIEF OF *AMICUS CURIAE* WILLIAM MITCHELL COLLEGE OF LAW INTELLECTUAL PROPERTY INSTITUTE IN SUPPORT OF RESPONDENTS

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INTEREST OF *AMICUS CURIAE*[1]

The Intellectual Property Institute is an entity within William Mitchell College of Law. The mission of the Institute is to foster and protect innovation through education, research, and service initiatives. Among its activities, the Institute advocates for the responsible development and reform of intellectual property law, including patent laws and the patent system of the United States. A purpose of the Institute is to raise issues and arguments in light of the public interest and the best interests of the patent system as a whole. The Institute has no financial interest in any of the parties to the current action.[2]

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[1]Pursuant to Supreme Court Rule 37.6, no counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amicus curiae* or its counsel made a monetary contribution to its preparation or submission. Additionally, counsel for both parties have consented to the filing of this brief, and their consents have been filed with the Clerk of this Court.

SUMMARY OF ARGUMENT

The dispute in this case is the result of a new approach that the Federal Circuit has recently adopted to evaluate the infringement of method inventions. That approach is less than 10 years old,[3] and is not supported by either sound reasoning or prior case law. It is unable to describe the allegedly infringing activity sufficiently to allow a comparison with important limits of the patentee's rights, and results in miscarriages of justice.

The Federal Circuit's approach should be replaced by a treatment that more closely mirrors the approach used to evaluate the infringement of inventions claimed as structure.[4] That approach would designate as the direct infringer the person who performed the last remaining step of the claimed method. It would resolve the issue in the present case, as well as additional issues that have arisen as a result of the Federal Circuit's approach.

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[3] *See, e.g.*, NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005); BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373 (Fed. Cir. 2007).

[4] *See, e.g.*, Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972); Akamai Technologies, Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1305-06 (Fed. Cir. 2012) ("The problem of divided infringement in induced infringement cases typically arises only with respect to method patents. When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer.").

ARGUMENT

A. The Federal Circuit has Adopted a Flawed Approach to Method Inventions

The dispute between the parties in this case is part of a larger group of issues that have arisen only since 2006-2007.[5] In those years the United States Court of Appeals for the Federal Circuit began to assess the infringement of inventions claimed as a method or process under a new approach. That approach evaluated each step in the process separately against the limits of the patent right. Under it, infringement was negated unless every step fell within those limits, in the same way.

The Federal Circuit used this new approach in several decisions that determined whether the accused use of the patented method had occurred "within the United States."[6] Those decisions held that a method is used within the United States only if every step of the method is performed inside the territory.

Shortly thereafter the Federal Circuit extended its

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[5] *See, e.g.*, NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005); Zoltek Corp. v. U.S., 442 F.3d 1345 (Fed. Cir. 2006); BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373 (Fed. Cir. 2007); Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318 (Fed. Cir. 2008).

[6] *See, e.g.*, NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1318 (Fed. Cir. 2005); Zoltek Corp. v. U.S., 442 F.3d 1345 (Fed. Cir. 2006).

use of the approach to determine who is liable for the use of the patented method.[7] Under that extension, a particular person cannot be liable unless he himself has performed every single step of the method. Where there is no such person, infringement is said to be "divided" and perhaps unactionable.[8]

This new approach by the Federal Circuit has proven to be unworkable and unwise. In some circumstances it cannot place an unauthorized use of the patented method – even where the historical occurrence of that use is unquestioned – onto any specific geographic location. In other circumstances it cannot identify someone who is responsible for the unauthorized use – even where the use has been open, purposeful and repeated on a commercial scale.

The present case involves one type of defect that has arisen under this approach. The parties have disputed the criteria under which the activities of one actor can be attributed to another, so that an infringing actor can be found. But this is simply one type of defect that results from the Federal Circuit's flawed new approach. Inevitably, there will be more disputes, involving different defects, unless the Federal Circuit's approach is abandoned and the treatment of method claims is put on more solid footing.

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[7] *See, e.g.*, BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380 (Fed. Cir. 2007); Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318 (Fed. Cir. 2008).

[8] *See* Akamai Technologies, Inc. v. Limelight Networks, Inc., 692 F.3d 1301 (Fed. Cir. 2012).

B. The Federal Circuit's Approach is Not Supported by Prior Authorities

The specific problem in this case has existed since a 2007 decision, *BMC Resources, Inc. v. Paymentech, L.P.*,[9] where the United States Court of Appeals for the Federal Circuit stated that "a party cannot be liable for direct infringement [if] the party did not perform all the steps" of the patented method.[10] In 2006, however, that court used the same basic view of infringement, in *NTP, Inc. v. Research In Motion, Ltd.*, to hold that "a process cannot be used 'within' the United States as required by section 271(a) unless each of the steps is performed within this country."[11]

Both of these lines of cases are briefly reasoned, and have only poor support from prior authorities. The *BMC* decision relied primarily on a prior Federal Circuit decision, *Fromson v. Advance Offset Plate*,

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[9]BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373 (Fed. Cir. 2007).

[10]BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380 (Fed. Cir. 2007). *See also* Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318 (Fed. Cir. 2008).

[11]NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1318 (Fed. Cir. 2005). *See also* Zoltek Corp. v. U.S., 442 F.3d 1345 (Fed. Cir. 2006).

Inc.,[12] which *BMC* asserted found "no direct infringement by manufacturer who performed the first step of a process claim even where its customer performed the other step of the claim."[13] Yet *Fromson* actually did no such thing – it vacated the trial court's determination of no infringement, and remanded the case for further proceedings.

The *NTP* decision relied on a 2002 decision of the Court of Federal Claims, *Zoltek Corp. v. United States*.[14] Yet *Zoltek* deals primarily with jurisdictional aspects of section 1498 of Title 28 of the United States Code, not the patent statute.[15] In the comparatively short discussion of patent infringement that does occur, the court in *Zoltek* admits that it could find "little case law" on the point.[16] In fact, the one case that *Zoltek*

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[12]Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1568 (Fed. Cir. 1983).

[13]*See* BMC Resources, Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380 (Fed. Cir. 2007).

[14]Zoltek Corp. v. United States, 51 Fed.Cl. 829, 836 (2002). *See* NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1318 (Fed. Cir. 2005).

[15]*See, e.g.*, Zoltek Corp. v. United States, 51 Fed.Cl. 829, 832-33 (2002).

[16]*See, e.g.*, Zoltek Corp. v. United States, 51 Fed.Cl. 829, 837 (2002) ("Prior to the adoption of section 1498(c), according to the little case law found on point, if a private party practiced even one step of a patented process outside of the United States, it avoided infringement liability, as the patent statute was limited to acts (continued...)

does cite, *Cold Metal Process Co. v. United Eng'g. & Foundry Co.*,[17] involved a patented *structure*, not a process. *Cold Metal* thus falls squarely within the line of cases eventually capped by this Court's 1972 decision in *Deepsouth Packing Co. v. Laitram Corp.*,[18] and is inapposite to the question under consideration here.

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[16](...continued)
committed within the United States. 35 U.S.C. § 271(a) (1952)").

[17]Cold Metal Process Co. v. United Eng'g. & Foundry Co., 132 F.Supp. 597, 602 (W.D.Pa. 1955), aff'd, 235 F.2d 224 (3rd Cir. 1956) ("One of the issues before the Special Master was whether United was liable for royalties on mills sold by it to purchasers outside the United States. On the subject the Master's Findings are Nos. 98 and 99 and the Conclusion is No. 16, in which he held United not liable for royalties on thirty-two mills which were sold and delivered to customers beyond the territorial limits of the United States.").

[18]Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972).

C. The Federal Circuit's Approach is Unworkable and Unjust

The Federal Circuit approach to method inventions is overly technical. As a result, it is unworkable and reaches unjust results. It is also inconsistent with how patent law treats inventions claimed as structure.

1. The Accused Activity Cannot Be Measured Against the Limits of the Patent Right

The patent owner's right under section 271(a) of the patent statute is bounded in various respects. For example, liability for patent infringement is imposed only on persons who utilize the patented invention.[19] It is limited geographically, to activities that occur "within the United States."[20]

To perform these functions adequately, therefore, United States patent law must reliably characterize an accused act of infringement, so that the act can be measured against each of these boundaries. That is, the law must assign the act to a particular actor, so one can tell who is potentially liable, and who is not. It must assign the act to a specific location, so that it can be determined whether the infringement was inside or outside the United States. And in executing these tasks, the law must adopt rules that are consistent

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[19] *See, e.g.*, 35 U.S.C. § 271(a) ("Whoever . . . .").

[20] 35 U.S.C. § 271(a).

with the basic purposes of the patent system, *i.e.*, that allow the patent owner to police and prevent purposeful employments of the patented invention without her consent.

The Federal Circuit's technical approach to method inventions is unworkable because it fails to perform these basic tasks. As demonstrated by this case, as well as by *BMC* and *Muniauction*, the treatment fails to assign the unauthorized use of the patented method to a particular actor. Instead – as the growing number of decisions on "divided infringement" prove – the result opens the system to miscarriages of justice: the patentee's method can be utilized purposefully, without the patentee's permission, and yet the patentee has recourse against no one, because no one qualifies as an appropriate actor.

Similarly, as *NTP* demonstrates, the Federal Circuit's approach fails to reliably assign the utilization of the patentee's method to a specific geographic location. Instead, where some of the steps of the method are performed in a foreign country, and the rest in the United States, Federal Circuit law does not locate the accused activity in either territory. The result is another miscarriage of justice: under the Federal Circuit's view the patentee is left again without recourse – even if she owns patents that claim the method in both countries.

And where these problems occur, they immediately interfere with the orderly process of distributing infringement liability to others who assisted in the

taking, even though they did not utilize the patented method directly themselves. Decisions of this Court have established that indirect patent infringement, under paragraphs 271(b) and (c) of the patent statute,[21] are specific applications of general doctrine of joint and several tort liability.[22] Thus, calculating liability for indirect infringement is potentially blocked where no direct infringement can be found.

2. Structure Inventions are Evaluated Under a Different Rule

It is instructive that these issues do not arise in assigning specifics to the accused infringement of a patented invention that has been claimed as structure. Section 271(a) of the patent statute imposes infringement liability on one who "makes" a structure.[23] In theory, it would be possible to approach the infringement of inventions claimed as structure in the same that the Federal Circuit approaches the infringement of methods. That is, one could insist that a patented structure has not been "made" unless a

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[21] 35 U.S.C. § 271(b), (c) (inducing and contributory infringement).

[22] *See, e.g.*, Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 501 (1964) ("[A] contributory infringer is a species of joint-tortfeasor, who is held liable because he has contributed with another to the causing of a single harm to the plaintiff.") (collecting authorities).

[23] 35 U.S.C. § 271(a).

particular actor fabricated each and every structural sub-element of the claimed combination. Yet United States patent law has never done so. Instead, it has always defined infringement of a structure claim to occur via the act of final assembly, even where one or more of the various sub-elements have been obtained from others.[24]

The result is a body of law that performs well, and which delivers results that conform closely to the underlying goals of the patent system. For example, the law is able to supply a responsible actor whenever the patentee's claimed structure has been utilized without the patentee's consent. That actor is the person who performed the final assembly.

The law is also able to locate the accused act of infringement geographically. The location is the place where the sub-elements were finally assembled into the operable whole: where the final assembly occurs outside the United States, the act of making has not been "within the United States," and so no liability

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[24]This historical treatment of structure inventions was recognized in majority opinion of the Federal Circuit below. *See* Akamai Technologies, Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1305-06 (Fed. Cir. 2012) ("The problem of divided infringement in induced infringement cases typically arises only with respect to method patents. When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer.").

under section 271(a) attaches[25]; conversely, where the place of final assembly is within the boundaries of the United States, the infringement qualifies under section 271(a) even though some or all of the sub-elements have been imported. Again, the result is a sensible allocation of responsibility between nations for administering questions of patent infringement, and leaves the patentee with a remedy in one country or the other.

And because the law is able to reliably supply a direct infringer of a patent to claimed structure, it has been able to develop a usable body of law that defines when liability should be distributed under the rules of inducing and contributory infringement.[26] Again, the law is able to supply results that are intelligible and that largely conform to the basic policies of the patent system.

D. The Federal Circuit's Approach Should be Overturned

This Court has recently observed that there may be only a fine distinction between a patented method and

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[25]Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 531, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972).

[26]Global-Tech Appliances, Inc. v. SEB S.A., 131 S.Ct. 2060 (2011).

the associated physical structure.[27] This is entirely sensible; whether a given patent contains claims drawn to a method or to structure often reflects a choice by the prosecuting patent attorney, rather than underlying differences in technology. Under these circumstances, the best course would be to overturn the recent Federal Circuit decisions, and decide instead that accused infringements of method inventions be evaluated analogous to inventions stated as structure. This would have the beneficial effect of bringing the two bodies of law into closer alignment, and supply, in disputes that involve claimed methods, the same quality of result that is obtained in connection with claimed structures.

Under this approach the direct infringement of a claimed method would occur with the performance of the last remaining step in the method. Thus, the directly infringing actor would be the person who performs this last remaining step. Other persons who performed one or more of the prior steps in the method, and then transferred the intermediate product to the final actor for completion, would not be direct infringers. There would be no requirement that the final actor direct or cooperate with any earlier actor –

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[27]Quanta Computer, Inc. v. LG Electronics, Inc., 553 U.S. 617 (2008) (exhaustion) ("It is true that a patented method may not be sold in the same way as an article or device, but methods nonetheless may be 'embodied' in a product, the sale of which exhausts patent rights. Our precedents do not differentiate transactions involving embodiments of patented methods or processes from those involving patented apparatuses or materials.").

just as there is no such requirement of direction or cooperation in connection with the making of patented structures.

In this way the system would reliably identify a responsible actor whenever the patented method is utilized without the patentee's consent. The problem currently being experienced with divided infringement would be solved.

The approach also would designate as the locale of the infringement the place where the final step in the process was performed. The approach would make the assignment regardless of the places where any of the earlier steps may have been performed – just as the location of making a structure does not refer to the making of any sub-elements.

In this way the system would specifically locate accused uses of the patented method. Again, the corresponding problems being experienced under the Federal Circuit's approach would be solved.

Finally, by reliably supplying a direct infringer in instances where the patented method has been taken, the suggested approach would make available to the infringement of method inventions the already-existing body of law regarding indirect infringement. This would provide a much more effective set of principles for evaluating whether liability for infringement should be distributed to others than will the alternative, of engrafting ever more complicated exceptions onto the law of divided infringement.

CONCLUSION

For the forgoing reasons, the Institute respectfully submits that the decision of the Federal Circuit in this case be affirmed, but on grounds other than those relied upon by that court.

Respectfully submitted,

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